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RETAIL TRUCK MARKET IS SPOTTED

Claims That Motor Buses Have Free Use of Roads Answered by W. H. Chandler

Points to Average Tax of $459 on Common Carrier Trucks in United States; Motor Taxes In 1929 Nearly Billion

NEW YORK, Nov. 21.—There is nothing new in the suggestion for the regulation of interstate and intrastate truck and bus operation, and such suggestions have usually been accompanied by charges that highway carriers are enjoying special privileges by being provided "free" use of highways constructed at public expense, says W. H. Chandler, chairman of the Shippers' Conference of Greater New York.

"The folly of these statements, however, is established conclusively by facts surrounding common carrier operation of motor vehicles, he continues.

"In 1929 the motor taxes in the United States amounted to $929,479,997 and in the ten-year period from 1920 to 1929, inclusive, these taxes totaled $5,881,869,000," he said. "This includes registration fees, gasoline tax, municipal and personal property taxes. Every industry has to pay taxes in exactly the same manner as the railroads and a part of these taxes is devoted to the improvement of public roads.

"The average tax on a common carrier motor truck in the United States is $459. This is for a three-ton truck with pneumatic tires. In thirty-two states the common carrier truck operator is assessed additional taxes in one form or another, such as: Additional weight on tires, flat fee on gross receipts in lieu of other taxes, percentage of value of produce carried, percentage of gross income, ton mileage tax.

"While on the average the private motor truck is assessed only 2.52 times the tax on the private passenger automobile, the common carrier truck is assessed fourteen times as much. These figures are consistently ignored by railroad representatives who imply that the common carrier motor truck is not

(Continued on Page 2)

DISTRIBUTORS HAIL MOVE TO SYNCHRONIZE CAR ANNOUNCEMENTS

CHIAGO, Nov. 21. — **Sentiment among Chicago automobile distributors is predominantly in favor of manufacturers agreeing on the time or times for new car announcements.**

Automotive Daily News yesterday revealed that the National Automobile Chamber of Commerce has already appointed a committee to study the advisability of such a move.

Interviews with four distributors here today finds three of them indorsing the idea 100 per cent., while the fourth feels that the manufacturers should use their own judgment in the matter.

"I know of no need more important just now than that the car makers work out a plan whereby new models will be brought simultaneously," said R. H. Keeling, vice-president of the Studebaker Sales Company of Chicago. "It is more than just a good idea. It would be a wonderful thing. For it would put an end to the confusion and waiting policy so often pursued on the part of motor car buyers.

"Car models unquestionably should

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PROMOTED BY DODGE

D. T. STANTON

Detroit, Nov. 21.—D. T. Stanton has been named as director of service of Dodge Brothers and W. R. Banford has been selected as assistant to the director of service. Mr. Stanton has been a Dodge man for fifteen years in sales and service work, both at the factory and in the field. He formerly was director of sales.

SOME IMPROVEMENT IN BUSINESS SEEN

New York, Nov. 21.—While business is still below the peak of this time a year ago there has been some improvement in the last few months and a slight betterment in the employment situation and a survey just made indicates an upward curve of confidence and that in the late winter or early spring there should be a gradual and definite upbuilding. John E. Edgerton, president of the National Association of Manufacturers, last night told the Chamber of Commerce of the State of New

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SEASONAL UPTURN IN SOME CITIES AND USUAL DECLINE IN OTHERS, SURVEY SHOWS

Philadelphia Dealers Report Encouraging Improvement, as Does New Orleans Trade; Quiet in Indianapolis

NEW YORK, Nov. 21.—Spotted conditions prevail through the East, Middle West, Pacific Coast and South in regard to the retail truck business, according to an up-to-date survey made by representatives of Automotive Daily News in the cities of Philadelphia, Indianapolis, San Francisco, New Orleans, and Salem, O. In some places, business is showing a seasonal improvement, while in others it is showing a seasonal falling off.

Indianapolis dealers report a seasonal quiet over the market, while in Salem an upturn is noted in the place of the usual downswing at this time. Philadelphia dealers report improvement in truck sales all along the line, while in New Orleans colder weather has aided business. From San Francisco comes word that the expansion of motor freight lines is aiding truck sales.

INDIANAPOLIS, Ind., Nov. 21.—Seasonal quiet marks the motor truck trade in this vicinity so far in November, with only a negligible amount of new business developing in either the large or small car division.

Some dealers in the better known lines, however, report the year's volume has stood up well in comparison with business in previous years, and few anticipate any great stir of buying activity throughout the remainder of the current year. Buying budgets of the larger concerns, it was pointed out, have been practically dissipated with the result that there is no money available for the purchase or replacement of hauling equipment. In this respect it was felt that pronounced improvement would follow the open-

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GRANT SEES STEADY UPTURN IN 1931-32

Boston, Nov. 21.—Vice-president R. H. Grant of General Motors Corporation, addressing a gathering of Chevrolet dealers and bankers in Boston, said: "Statistics prove that the automotive industry recovers more quickly than about any other in times like these.

"In 1907 there was a panic which threw excited mobs into the New York financial district and big banks crashed. It began in January. When the year ended the motor industry had sold 33 per cent. more vehicles than in 1906.

"Every dollar put into circulation now," he said, "is as good as $5 or $10 in ordinary or good times."

Regarding the motor industry, he further said: "Once it gets started into normal production, business conditions will begin to be stabilized. After a year of decreasing motor sales comes one with an upward curve and following a year of pronounced increase. That is why we look to 1931 to level out the sales curve and 1932 to be very good. This has been the story since 1915."

Cook County's Car Sales At New Low in October

CHICAGO, Nov. 21.—**New car registrations in Cook county reached a low level for the year in October, listings for the month of 3,200, comparing with 4,692 in September and 6,484 in October last year. It is interesting to note that the October figures this year were below those also for the same months in 1927 and 1926.**

Ford fell off 1,115 from October, 1929, with comparative figures of 1,067 for this year and 2,182 for last. Model A, however, maintains its pace, accounting for one-third of the monthly registrations.

Chevrolet took second place in the general listing with 306, as against 480 last year. In September Chevrolet had 552. Both Ford and the General Motors unit had new low levels for the year in October.

Buick had 225, which compared with 553 in October, 1929, and 458 in September this year. There were 98 of the series 124-132-80-90, 85 of the 118-60, 38 of the 50 and four Marquettes.

Nash registered 167, which was 22

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The complete technical detail of the Hudson-Essex line for 1931 will appear in the Wednesday, November 26, issue of Automotive Daily News.

Bank Failures Mar Sales Outlook in Three States

LOUISVILLE, Ky., Nov. 21.—**Prospects for fall automobile business over Kentucky in part, also Tennessee and much of Arkansas, slumped considerably in the past ten days or so, as a result of a steady list of bank failures, some of large proportions.**

Starting with the failure of the investment banking house of Caldwell & Co., Nashville, Tenn., November 5, the Bank of Tennessee of Nashville and the Holston Union National, Knoxville, and several smaller banks in Tennessee followed a few days later. The trouble then spread into Arkansas and Kentucky.

The National Bank of Kentucky, Louisville, and its affiliated Louisville Trust Company, closed their doors before banking hours on Monday morning, November 17. The Security Bank, also affiliated through stock control of all three, being in Bancokentucky Company, a holding company, closed the same morning. Two small banks in Louisville, with deposits at the Louisville Trust Company, closed, and one suburban bank. The branch bank of National Bank of Kentucky and six branches of Louisville Trust also closed.

National Bank of Kentucky, largest financial concern in the South, was considered as a bank that was absolutely sound. Its closing has placed many people in need of ready cash, with their deposits tied up to the tune of more than $40,000,000, plus that tied up in the closing of other banks, while the situation out in the state will become more serious as more rural banks are unable to draw against

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Chandler Answers Rails On Motor Bus Tax Claims

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now taxed for the use of the highways.

"The public apparently is not familiar with the statistics covering the operation of motor trucks by railroads. The Railway Express Agency, which is owned by the railroads, is reported as operating more than 9,000 trucks. Fifty-five railroads, according to the Railway Age, in 1929 operated 5,900 trucks. Do the railroads want the taxes on their trucks increased? It would seem not, because one of the serious complaints of the rail carriers is that their taxes, like those of every one else, have been increased substantially in recent years.

"Uninformed people are prone to ignore the fact that the motor truck performs a service that the railroad executives have consistently refused to perform for shippers. The motor truck will operate from door to door in much less time than the railroad makes from station to station. The railroads have consisently refused to give store door collection and delivery, although they have been urged for the last fifteen years so to do. It never seems to have occurred to them that it might be more profitable to use motor trucks for short-haul traffic, giving a service comparable with that given by independent motor truck companies that are studying the requirements of their patrons.

"After all, when one studies the statistics he finds that a relatively small amount of interstate business is handled by common carrier motor trucks. This was quite fully developed by the Interstate Commerce Commission. By far the larger volume handled by trucks is either by private carrier or in intrastate hauls over which the Federal government has no control. It has not been suggested that the Federal government undertake to regulate the private carrier, and it is doubtful if any such legislation could ever be put through Congress.

"Any legislation that may be introduced in Congress with the object of preserving for the railroads the relatively short-haul traffic against a superior form of transportation will be vigorously opposed by all who are interested in eliminating terminal delays and high trucking costs. The railroads were not regulated until their disregard of fundamental business principles bore so heavily on shippers generally that legislation was the only thing that would correct the practices then existing. If interstate common carrier motor truck companies ever begin to indulge in such practices then it will be time to apply corrective measures. At the present time these motor companies appear to be giving their patrons entire satisfaction, for it is a rare case where complaint is made by the merchants using them."

That the shipping interests of New York are greatly concerned in the investigation of rail-motor co-ordination undertaken by the Interstate Commerce Commission was also indicated by Mr. Chandler, manager of the New York Merchants' Association.

On behalf of the Merchants' Association, Mr. Chandler reported that there is apparently a misunderstanding as to the character of testimony desired at the hearings which the commission is conducting in connection with its investigaton. He said:

"The final paragraph of the notice states that the hearing will be confined primarily to the matter of co-ordination of common carriers subject to the act and common carriers by motor vehicles. It is not clear to me whether this refers to motor carriers not owned by the railroads and not subject to the jurisdiction of the commission, or motor carriers directly or indirectly a part of the railroad system.

"When this subject was previously before the commission, it asked the assistance of shippers in producing witnesses and presenting evidence bearing upon all phases of motor truck operation. This association has witnesses who had all shades of opinion respecting the desirability of Federal motor truck regulation. However, when we began presenting testimony the presiding commissioner showed little, if any, interest in the views of our witnesses and indicated a desire substantially to shorten the record. Our time in preparing what we thought would be of interest to the commission was largely, if not entirely, wasted."

TIMKEN NET PROFIT TO EXCEED DIVIDEND

New York, Nov. 21.—The Timken Roller Bearing Company will close the current year with total net profits in excess of the annual dividend requirements of $3 a share on the 2,412,967 no-par shares of stock outstanding. Operations in the current quarter are at the lowest level for the year to date, in line with the decline in general industrial and motor activity, but it is likely the company will show a portion of its dividend requirements earned in the fourth quarter.

Since the company earned $7,287,653, or $3.02 a share, for the nine months ended September 30, last, the fourth quarter profits will represent the 1930 contribution to surplus.

Estimated net profits of around $7,500,000 for 1930 would show a reduction of around 47 per cent. from the net income of $14,155,414, or $5.88 a share on 2,407,824 shares in 1929, the company's high record, and will represent the lowest level for any year since 1924 when profits amounted to $5,805,687.

The decrease in net profits for 1930 results chiefly from the sharp downward readjustment in general business activity which has developed during the current half year, with Timken particularly effected by the severe curtailment of manufacturing operations in the automobile field, which absorbs the greater part of the company's output.

COOK COUNTY CAR SALES AT NEW LOW

(Continued from Page 1)

better than in September but 46 behind October, 1929. The Single Six led the group of Nash models with 69, the Twin Ignition 8-70 having 66 and the Twin Ignition Six 8-80, 32.

Studebaker was just one car behind Nash with 166, which compared with 211 in October, 1929, and 234 in September this year. Oakland-Pontiac led the groups with 151, taking sixth place in the general standing. Last year the pair had 334. Pontiac accounted for 117 of the total last month.

Both Essex and Hudson took a marked slump, having a combined total of 96 for last month, which compared with 440 in October last year. Essex had 68 and Hudson 28, being the lowest for each for the year.

Packard and the Cadillac-La Salle combination had a close race with Packard, leading with 146.

The General Motors pair had 136, of which 79 were Cadillacs. Fifteen of the listings were of the new Twelve model and 6 of the Sixteen. Packard had 101 of the Standard and 45 of the Custom De Luxe types. Last year Packard had 226 and Cadillac-La Salle 250.

Chrysler also finished ahead of the century mark last month, registering 109, which compared with 238 in October, 1929. Plymouth and Dodge of the Chrysler family each had 74. Last year the respective totals for October were 101 and 148. Plymouth had 124 in September and Dodge was credited with 80.

Graham had 67. Last year Graham listed 130 for October, Oldsmobile-Viking registered 62, of which 50 were Oldsmobiles. Last year the combination had 191.

Franklin scored a gain over last year, having 54, as against 27 in 1929. Franklin had 49 in September. Lincoln came within two cars of equaling its total of October last year, having 36, as against 38 in 1929. Lincoln had a better score than for either August or September this year.

Eleven Reos were listed. However, Reo just signed up with a new distributor within the last two weeks.

The standing for October this year compared with the same month in 1929 follows:—

	1930	1929
Ford	1,067	2,132
Chevrolet	306	400
Buick	225	553
Nash	167	213
Studebaker	166	211
Oakland-Pontiac	151	334
Packard	146	226
Cadillac-La Salle	136	250
Chrysler	109	238
Hudson-Essex	96	440
Plymouth	74	101
Dodge	74	148
Graham	67	130
Oldsmobile-Viking	62	191
Franklin	54	27
Willys Products	53	104
Auburn-Cord	50	90
De Soto	38	58
Lincoln	36	38
Hupmobile	31	211
Marmon	23	40
Pierce-Arrow	16	44
Reo	11	54
Austin	9	0
Moon-Windsor	7	5
Durant	6	25
Gardner	5	5
Stutz-Blackhawk	5	16
Peerless	3	19
Jordan	2	2
Miscellaneous	5	49

ALFRED DE COZEN LEAVES FOR HUNTING OUTING

Newark, N. J., Nov. 21. — Alfred De Cozen, president and general manager of the De Cozen Motor Company, Chrysler distributor, accompanied by Frederick C. Biedenbach, Arthur Hart and John Bernhard are in Berlin, Md., on their annual hunting outing.

Making sales history.....

Ha Dees Controlled Hot Water Heat

EASY TO MOUNT
Ha Dees ideal design permits easy "two pipe" method of mounting; just two holes to bore to insure rigidity.

COMPLETE HEAT CONTROL
Ha Dees Heaters permit complete control of aero-dynamic fan-forced, heated air both in volume and direction.
A National Surety Company gold bond guarantee of quality with every heater.

The Ha Dees Heater steps out ahead of competition again in 1930 with new engineering achievements. New efficiency, due to the patented aero-dynamic fan design, makes the Ha Dees Heater a marvel for quietness and increased heating efficiency—and for record-breaking sales. Investigate!

Ha Dees HOT WATER Car Heater

LIBERTY FOUNDRIES COMPANY (A division of Burd Piston Ring Company) ROCKFORD - - - - - - ILLINOIS

SPARKS from DETROIT

Gas Buggy Days

* * *

From Makeshifts to Automobiles

* * *

The Rise of an Industry

Chris Sinsabaugh—Detroit Editor

MOON'S receivership troubles recall those days when the industry was in its formative state, when it was thought the legitimate source of automobile supply was the builders of fine buggies and sturdy wagons because of their long years of experience in producing vehicles for business and pleasure.

As a result of this belief the first decade was marked by the advent of numerous concerns prominent as body builders and manufacturers into the automobile field. Moon was one of them, J. W. Moon flinging his automobile banner to the breeze in 1908. Studebaker was another, and there were such well known companies as C. P. Kimball of Chicago and Brewster of New York, both nationally famous, but knowing more about building high grade bodies than motor cars.

W. C. Durant came from the older industry through the Durant-Dort Carriage Company and later the Flint Wagon Works. This last named concern started Buick production and it was the profits from Flint operations that made it possible for Durant to buy stock interests in Olds, Cadillac and Oakland—it was the little acorn from which has grown the General Motors giant oak.

* * *

Then came the era of the high-wheelers, called motor buggies, which had a particular fascination for Cincinnati wagon builders like Schacht, and Holsman of Chicago. But this fad didn't last. These rigs were in truth horseless carriages, whereas by this time—1908-1910—the public had been educated up to the automobile, of course in a crude form then compared with today's, but not a contraption with an engine stuck in it.

We even remember Vincent Bendix's fling in this field before he conceived the Bendix starter which placed his feet on the first rung of the ladder leading to its present prominence in the automobile field.

* * *

OF these pioneer wagon manufacturers who became automobile makers, Studebaker has been one of the outstanding successes. Vehicle builders since 1852, the Studebakers early sensed the coming of the motor car. In 1897 they were experimenting with the horseless carriage, picking the electric as the coming thing. For ten years, from 1902 to 1912, they dabbled with the electric, although in the meantime, they had switched their faith to gasoline. They plunged by signing up with the E. M. F. Company (Barney Everett, W. E. Metzger and Walter Flanders) for certain sales rights for E. M. F. cars. Out of this came the Studebaker-E. M. F. This lasted until 1911, when the Studebaker Corporation really became an automobile manufacturer. Off on the right foot this time, the success of this South Bend organization is written on every page of automobile history since then.

That same year A. R. Erskine joined up as treasurer and we cannot help but feel that his business sagacity and broadness of vision have had a lot to do with the present high standing of the corporation, particularly since the time he assumed the presidency in 1915.

* * *

AND all this because we have been reading about the Moon matter. Still, these recollections may be worth while if for no other reason than jogging the memories of the pioneers and telling the newer generation about the foundation on which the greatest of American industries was laid.

* * *

CHECK another reader of the column, this time Guy C. Pierce, Philadelphia manager of the Williams & Cunnyngham advertising agency, handling the Lee tire account, Mr. Pierce, discussing the handling by this column of Cannon Ball Baker's recent record drive from coast to coast in a Stutz, reminds us that the fact the car was shod with Lee tires was overlooked. Our apologies.

"For thirteen months now, Baker has run exclusively on Lee super de luxe tires. All of his last eleven world's open-road records have been made on these tires, quite a testimonial and unpaid for, too," writes Lloyd Maxwell's Quaker ace.

MERCHANDISING ACCESSORIES EQUIPMENT

WHOLESALE

DISTRIBUTION SHOP EQUIPMENT REPLACEMENTS

EIGHT TESTS FOR PROFIT FOR NEXT NINE MONTHS

SOME business men say at the end of every year, "Well, that's another year gone," says Field Facts, official publication of the Automotive Electric Association in the following article:

"Gone" someway seems to suggest a total loss—or "forever ended." No year should be "forever ended" in business. Its history and its experiences are vitally valuable. A year ended or even a quarter of a year ended, or even a month ended are laboratory tests of our business methods. When the scientist finds a test unsatisfactory, he studies deeply to find out why the test failed.

We can do exactly the same thing in business. There are three basic materials in business: Men, methods and money. When we put business experience under examination, the first thing considered is man power. But the second element—methods—is almost as important. The third element, money, is a neutral and "inactive agent." It is only the resultant of the first two elements combined. When it shows positive, it is profit; when it shows negative, it is loss.

Therefore, when a business man finds a negative result or when the positive is so slight as to be negligible, there are only two considerations. Has he the right men? The right methods?

"Business conditions" are uncontrollable conditions under which the business man must make his test. When a scientist is forced to work under uncontrollable conditions, he must adjust the elements used in his test to conform as nearly as possible with such conditions. This is exactly true in business.

The year 1930 has presented unusual conditions, therefore, the success of our test has depended upon our ability to conform men and methods to those unusual conditions. Either we had to change the kind of men we used, modify them or in some other way adapt them to present conditions. We had to do likewise with our methods. Our resultant in money (profit) depended absolutely upon our accurate and prompt action in changing, modifying or replacing men and methods which could not be adapted to the unusual conditions.

The science of business is founded upon the facts of bookkeeping, the resultant profit (money) that we show from our combination of men and methods must be based upon facts that have to do with money. Our bookkeeping system provides the only standard by which we may judge the success of our experiment in combining men and methods to obtain profit.

The man who keeps on making tests by guess and without considering the success or failure of his previous tests is not a scientist. Science is organized knowledge, and we can't organize knowledge by disregarding or throwing away the facts of past experiments. The past is the only source of facts to guide our future.

If we do not consult the bookkeeping records which show in what degree our past experiments failed or succeeded, we have no intelligent basis to guide or even to justify us in changing or replacing men or methods to insure greater success for the next experiment.

Business is a science. Successful science never predicates results on guesswork when facts are available. If we fail to make profits in the first nine months of this year, there are reasons for it. We are perfectly willing to admit that they may be justifiable reasons. For, regardless of how optimistic we think we should be, we cannot within reason say that "business conditions were favorable the first nine months of 1930." They were not favorable. But the chances are that these conditions will not be changed very much in the last three months of 1930 or even in the first six months of 1931. The experiments we make in that period should be governed accordingly.

There are good reasons for believing that business conditions may never again be the same as they were in the last four or five years. Certainly no sane thinking man believes that they will be the same in 1931 as they were in 1928 and early 1929.

So it is wise to study the tests and results of our experience in the first nine months of 1930. If men and methods did not make a success of the first nine months of 1930, it will be very dangerous for us to continue with the same men and methods without change or improvement in the next nine months.

Here are some of the things that should come under our microscope in planning our experiment for the next nine months based upon our history and experience during the last nine months:

1. Our bookkeeping system is the final fundamental upon which we judge the success of men and methods. It is not so much that men do not have adequate or informative bookkeeping systems, but that they do not study and use the experimental history of results in profit or loss as revealed by their bookkeeping facts. If you experiment in business with the elements of men and methods, then if one certain kind of men and methods, after fair experiment, cannot get results for you in profits, you must either change or improve the men or your next experiment cannot be a success. History repeats itself. Men and methods that fail once keep right on failing unless they can be improved. Men can be improved, but methods that fail once never can be used successfully again in the same experiment. Methods are positive; they are like eggs, good or bad! The only way to change a method is to put a new method in its place!

2. Based on the above paragraph, here are four suggestions: (a) Be sure that you have a thoroughly sound bookkeeping system, and be sure that you thoroughly study in detail the results that it reveals. (b) Don't temporize. First study deeply to find which is wrong, the men, the methods or both. If it is the men, begin now to improve them or to replace them. If it is the methods, study deeply to find better methods under which your men can work to get better results. (c) At this point be sure in your own mind that the results you are looking for in your experiment are

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Check Up on These Eight Profit Points

ONE—If your present bookkeeping system does not bring results in profits, change it to one that will.

TWO—Determine from your bookkeeping system what your resultant profit must be, and then doubly determine to get it.

THREE—Discover the possibilities of your business in terms of your territory, your goods, your market and its buying power.

FOUR—Having discovered its possibilities, invest the necessary money, time and effort in your business to attain them.

FIVE—Make your mistakes of the past stepping stones to future improvement.

SIX—Give yourself and your men definite marks to shoot at, and prove that these marks are within range.

SEVEN—Put intelligent supervision and control over your men and your methods.

EIGHT—Leave no stone unturned to obtain the definite resultant you have established.

Editor's Column

ASSUMING importance, as a consequence of the renewed emphasis on readjustment of retail price levels, the question now facing retailers is whether they have not definitely entered upon a long period of lower retail prices that demands a closer co-ordination of management and expense policies with the curtailment of dollar volume indicated by low commodity prices and reduced unit prices of merchandise.

The question presents two angles of major importance. One is the readjustment of retail prices themselves in close ratio to wholesale and raw material levels. The other is a comprehensive and sound shaping of merchandising and expense policies in keeping with the many ramifications of this price readjustment.

In a discussion recently, adjustments along this line were characterized as the biggest problem retailers will face for some time to come. The view was expressed that a considerable degree of readjustment of retail prices in proportion to the decline in commodities has already been accomplished.

From a long-range viewpoint, however, and if a "permanently" lower commodity level than that of 1928-29 is looming up, a good deal of management and expense readjustment remains to be done, it is felt. It was suggested that the early months of next year may see a further readjustment of retail levels that would have an important bearing on the general retail basis for the entire year of 1931 and beyond. A reasonably good holiday season is in prospect, and its impetus will probably carry retailers through to the end of this year without any material change in current merchandising policies. In January and February, however, retail pricing and expense problems were foreseen as beginning to press for more comprehensive solution.

Any lower price level at retail of even a fair degree of permanence, it was said, will entail a revamping of current ideas of adequate management and expense control. Many retail establishments have been rolling up an expense ratio based on the expectation of a steady increase in dollar volume.

"Expenses must be paid for out of dollars and not from transactions," said one retail executive in discussing the point. "A gain in transactions will not help retailers unless there is at the same time a gain in dollar volume to support the current ratios of expense.

"Either expenses must come down or else the consumer will get a lesser percentage of intrinsic and durable value for the dollar he expends and pay a higher percentage of it for overhead and service. I believe the consumer demands for merchandise value will continue to be increasingly emphasized, and that retail expenses perforce will have to come down. Just how this will be accomplished, I am frank to say, I do not readily see at this time."

Other retail executives also share in this view, but maintain that slowly but surely an increasing grip on expenses would be a feature development of the year to come.

In some retail quarters it is held that as yet much doubt exists regarding the establishment of a permanently lower price basis. The course of future commodity development alone, it was asserted, will determine the issue. It was pointed out that in previous depressions a substantial degree of commodity price recovery has always set in. Whether recovery will be greatly delayed because of the world-wide nature of the current depression, is held an open question.

100 PARTS-ACCESSORY DISPLAYS SCHEDULED FOR NATIONAL SHOWS

New York, Nov. 21.—More than 100 exhibitors of accessories, parts, sundries and shop equipment will show their latest products at the thirty-first annual National Automobile Show, in Grand Central Palace, here, January 3 to 10, according to an announcement by the show committee today.

The great majority of these also will exhibit a few weeks later at the Chicago show, which will be held from January 24 to 31. Combined with fifty-four makes of complete passenger cars, commercial vehicles and taxicab models, the aggregation will be the most complete and representative of the industry.

Considering that the accessory, parts and tire industry has a wholesale value of more than $2,081,000,000 annually, it is obvious that an exposition of accessories and parts alone is of national interest. When the latest complete cars are combined with such an exhibition, the result is perhaps the greatest annual industrial exposition on the calendar.

CURB ON POOR GAS IN STOCKTON, CAL.

Stockton, Cal., Nov. 21 (UTPS).—The City Council here has passed an ordinance compelling distributors of low-test, low-priced petroleum motor fuel to post signs on their pumps reading, "This is not gasoline." All dealers selling a product not complying with the standards established by the United States government for gasoline will be affected by the new measure.

This ordinance, it is believed, will protect dealers in standard gasoline from inroads of dispensers of the low-priced product. The City Council based its action on testimony that the cut-rate product usually contains a larger percentage of kerosene and other ingredients. Similar ordinance have recently been placed in effect in Los Angeles and Fresno, Cal.

JOBBERS IN SEATTLE REPORT BIG BUSINESS WITH SAFETY LANE

Seattle, Wash., Nov. 21.—F. J. Provost, Northwest manager for the Raybestos division of Raybestos-Manhattan Corporation, reports the recent safety inspection campaign conducted in Portland as the most successful ever held in the Northwest.

A total of 7,500 cars were inspected, and 60 per cent. needed some kind of mechanical work or adjustment. Inspection was the most complete ever attempted in this region. It included brakes, headlights, steering mechanism, windshield swipe, front axle and tail light.

"It was very thoroughly done, and the people liked it," declared Provost. "The average price of the jobs amounted to $1.75 for each of the 60 per cent. of the 7,500 cars that had defects."

Those who helped put it over included Frank Hisson and Jerry Grove of Weaver Manufacturing Company, John Freidly of Freidly Machine Company, Seattle; Ballou & Wright, P. J. Cronnin Company, Wiggins Company and larger brake service stations, all of whom furnished man power, in addition to rendering other support.

AIRCRAFT PARTS CONCERN LEASES PATERSON PLANT

Paterson, N. J., Nov. 21.—The National Aircraft and Airways Company, Inc., a concern manufacturing airplanes, parts and accessories, has signed a long-term lease on the Rumler mill, located on 13th Street, and will begin operation here early next month. It is announced that a lease for another company, which will take over one of the largest mills in the city for the manufacture of bronze parts and fittings for airplanes and other uses, will be signed in a few days.

WILL MAKE GASKETS

Hasbrouck Heights, N. J., Nov. 21.—Sea-Ro Products Corporation, to manufacture gaskets, has been formed here by David S. Elkins, Frank V. Donegan and Michael A. Castaldi, New York.

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Automotive Daily News

"Of, By and For the Entire Automotive Industry"

Published Every Day Except Sunday and Monday by
AUTOMOTIVE DAILY NEWS PUBLISHING CORPORATION,
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SATURDAY, NOVEMBER 22, 1930

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When Shall We Announce?

EVERY automobile dealer in the country has a definite personal interest in the announcement which recently appeared exclusively in the Automotive Daily News to the effect that the National Automobile Chamber of Commerce has appointed a distinguished committee to consider the advisability of limiting announcements of new cars to a definite period. Such a period may be that just before and during the national shows or any other selected time.

The committee charged with this investigation, under the chairmanship of Alfred P. Sloan, Jr., president of General Motors, has asked all manufacturers who are members of the N. A. C. C. to give their views on the subject.

This question of having all announcements of new car lines coming within a definite limited period has been much discussed in dealer circles. Opinion differs, but, in so far as we have been able to sound out dealer sentiment, the vast majority of the retail merchants favor having all such announcements come during what is somewhat vaguely known as "the show period." This means during the closing weeks of the year, say from the middle of November to the opening of the national show in New York, the first part of January.

In the Automotive Daily News of yesterday the reasons why dealers favor a uniform announcement period were admirably summed up, from the dealer point of view. We believe, however, that this question has an even wider significance than benefit to the dealers, though the manufacturers recognize this phase of the matter as being of paramount importance.

To our mind the wider benefits that would accrue to the entire industry center in the aid that a uniform announcement period in the closing weeks of the year would bring to the automobile shows. There is no question that, when certain popular makes of cars have had their lines for the next year on the streets for a considerable period, interest in the shows is reduced by just that proportion of the whole. If all makes of cars were represented by new lines which had just been made public, attendance at the shows would be largely increased.

As regards the value of the national shows to the automobile industry, there ought to be no difference of opinion. No other industry in existence enjoys the opportunity of having the attention of the entire country for a two-week period focused directly on its products. This is possible only because this country is intensely "motor minded." Our whole business and social life is built on the general use of motor vehicles. Every family in the country is consequently interested in what the various companies are offering for the coming year. But, if a large percentage of the families are able to see and even buy new models months in advance of the shows, their interest obviously becomes purely academic.

From time to time there have been advanced within our industry opinions to the effect that the annual automobile shows have outlived their usefulness; that the time and money spent in promotion and attendance, could be used to better advantage in other ways. Such arguments never have been very definite and it is hard to find any logic in such a position. There is not another industry in the United States which would not hail with delight the annual two weeks which the automotive business has, when it occupies the center of the commercial stage, under the full spotlight. Other industries which never have had this opportunity are endeavoring to build up a similar situation for their own benefit. They are staging annual shows and trying to interest the public in them. In certain cases they have been somewhat successful, but none has approached the traditional success and general interest of the automobile shows.

It is impossible to overestimate the advantage to the automotive industry of the annual national automobile shows. If having all new car announcements come at the same time will enhance the pulling power of the shows, we are simply increasing the value of one of the most powerful assets that this industry can boast.

H. H. RICE ACCEPTS U. S. APPOINTMENT

Special from A. D. N. Washington Bureau

Washington, Nov. 21.—Herbert H. Rice, assistant to the president of General Motors and treasurer and a director of the National Automobile Chamber of Commerce, has accepted appointment by the Interior Department as chairman of a commission created by Congress to investigate highway possibilities in Alaska.

The commission will determine the feasibility of constructing a highway to connect the northwestern part of the United States with British Columbia, Yukon territory and Alaska.

ALABAMA COURT RULES IN CAR SEIZURE CASE

Birmingham, Ala., Nov. 21 (UTPS).—If an automobile is seized for transportation of liquor and the automobile company which sold the car still retains an interest in the car due to payments, the company's interests is not subject to condemnation when the company shows that it did not know the car was being used for transporting alcoholic beverages, the Alabama Supreme Court has ruled and reversing a Covington Circuit Court decision.

N. J. READY TO COLLECT EXTRA TAX ON GAS

Trenton, N. J., Nov. 27.—Arrangements have been completed by Commissioner Hoffman of the Motor Vehicle Department for the collection of the additional one-cent gasoline tax which becomes effective December 1. The increase from two to three cents per gallon is due to the $100,000,000 bond issue adopted at the last election. Receipts from the two-cent gasoline tax for the calendar year to date total $8,228,727.68. It is estimated the aggregate receipts for the year at the two-cent rate will approximate $10,000,000.

COMING EVENTS

NOVEMBER

13-23—**Paris, France.** Commercial Vehicle Salon.
30-Dec. 6.—**New York city.** Automobile Salon at Commodore Hotel.

DECEMBER

6-17—**Brussels, Belgium.** Automobile Exhibition.

JANUARY

3-10—**New York.** National Automobile Show.
5—**New York.** Rubber Manufacturers' Association convention.
6—**New York.** National Automobile Chamber of Commerce annual show banquet at Hotel Commodore.
5—**New York City.** National Automobile Dealers' Association convention.
10-17—**Milwaukee, Wis.** Automobile Show.
7-10—**East Orange, N. J.** Automobile Show of the Oranges and Maplewood.
8—**New York City.** Society of Automotive Engineers' annual dinner.
10-16—**St. Louis, Mo.** National Roadbuilders' show and convention.
10-17—**Buffalo, N. Y.** Automobile Show.
10-17—**Philadelphia.** Automobile Trade Association annual show.
10-18—**Newark, N. J.** Automobile Show.
11-17—**Cincinnati, O.** Automobile Show.
17-24—**Boston.** Automobile Show.
17-24—**Detroit, Mich.** Annual Show. Convention Hall.
17-24—**Hartford, Conn.** Automobile Show. at state armory.
17-24—**Montreal, Can.** National Motor Show of Eastern Canada at Stadium.
17-24—**Baltimore, Md.** Automobile Show.
17-24—**Pittsburgh, Pa.** Automobile Show.
19-22—**Chicago.** National Wheel and Rim Association convention at Edgewater Beach Hotel.
19-24—**Detroit, Mich.** Society of Automotive Engineers' annual meeting.
19-24—**Louisville, Ky.** Automobile Show.
19-24—**Rochester, N. Y.** Automobile Show.
24-31—**Chicago, Ill.** National Automobile Show.
24-31—**Cleveland.** Automobile Show.
24-31—**Washington, D. C.** Automobile Show
26-27—**Chicago.** National Automobile Dealers' Association convention.
26-31—**Syracuse, N. Y.** Automobile Show at Armory.
31-Feb. 7—**San Francisco.** Automobile Show.

FEBRUARY

1- 7—**Minneapolis, Minn.** Automobile Show.
1- 7—**St. Paul, Minn.** Northwest Automobile Show, jointly sponsored by St. Paul and Minneapolis at the Minnesota State Fair Grounds.
2- 7—**Scranton, Pa.** Automobile Show.
2- 7—**St. Louis.** Automobile Show.
3—**Minneapolis.** Auto Trade Association convention.
7-14—**Los Angeles.** Automobile Salon.
7-14—**Kansas City.** Automobile Show.
9-14—**St. Petersburg, Fla.** Automobile Show at Winter Garden
9-14—**Denver, Colo.** Automobile Show.
14-19—**Indianapolis.** Automobile Show at State Fairground.
14-21—**Providence, R. I.** Automobile Show.
14-21—**Omaha, Neb.** Automobile Show.
16-20—**San Francisco.** Society for Steel Treating National Western Metal and Machinery Exposition.
21-28—**San Francisco.** Automobile Salon.
23-28—**Des Moines, Ia.** Automobile Show at Coliseum.
24-March 1—**Seattle, Wash.** Automobile Show at Civic Auditorium.

MARCH

7-14—**Brooklyn, N. Y.** Automobile Show.

Contemporary Comment

"THE motor truck has demonstrated its economy and its great desirability for many forms of freight handling. It should be willing to assume a fair proportional share of whatever tax burden may be necessary to support the modern highways over which it operates. It cannot be legislated out of business. Nor, if railroads do adopt the motor truck more widely, can they expect that exclusive and monopolistic position, as motor truck freight carriers, which they very properly have as railroad haulers."—**The Autocar Messenger.**

* * *

EDGAR WALLACE, well-known writer of detective stories, has recently protested vigorously in the British press against the fact that any one haled into court for traffic violation or similar breach of the laws applying to motor vehicles, stands convicted before his case is tried. This situation exists here. Most motorists take whatever fine is levied without entering a defense, simply because defense actually is impossible. A policeman's word rules against any evidence a private motorist can bring forward. Mr. Wallace suggests that British motorists form a political union to protect their own interests. Here is a bit of comment aroused by that suggestion: "We offer no opinion on the practicability of Mr. Wallace's proposal; but we contend that the mere fact that it is made is condemnation of a judiciary system which so often permits bias to prevail in cases where one special class of citizen is concerned.

"That there are cases in which the punishment is justly inflicted is not the point here. The guilty can and should be properly convicted and correctly fined. It is entirely wrong, however, that any defendant should go into court with the foreknowledge that all legitimate measures of defense will be futile. Yet this sense of impending injustice has been so strongly inspired by their own experience, or by that of others, that many motorists pay because they know that resistance to a charge is useless as well as expensive. There is no other section of the community to which comments such as those made by Mr. Wallace can be said to apply."—**The Motor, London.**

* * *

"PROSPECTS for heavier railroad buying, a slight gain in demand from the automotive industry, further moves toward stabilization of steel prices and indications that the scrap market may finally be scraping bottom are sources of encouragement in the iron and steel industry.

"Inquiries for close to 50,000 freight cars, requiring 700,000 tons of steel, are expected, following the completion of financial arrangements under which a leading banking house will sponsor the underwriting of equipment trusts at a low rate of interest for 80 per cent. of the purchase price of the rolling stock, and car builders will carry the remaining 20 per cent. on their books for repayment in small installments. Meanwhile, railroads are adding to their repair shop forces and are coming into the market for their shop requirements in steel. The Pennsylvania opened bids November 17 on 42,000 tons of plates, shapes and bars for delivery through the first half of 1931. Pending rail business has been augmented by inquiries for 80,000 tons from the Louisville & Nashville and 10,000 tons from the Wabash.

"In the automobile industry the launching of production on new models has resulted in a moderate gain in steel orders, particularly in the Cleveland district, where steel ingot output has been raised in two weeks from 20 per cent. to 44 per cent. of capacity. The trend in the motor car trade is not uniform, with some manufacturers further reducing production, and others, notably the Chevrolet company, expanding output.

"The Chevrolet program for November-December calls for a production of 90,000 to 100,000 cars. A large part of this output will be needed to supply dealers and a tentative schedule of 75,000 cars for January is subject to change in conformity with the public's response to model changes. Some inquiry for automotive steel for first quarter delivery has appeared and December is expected to bring out heavier specifications for January shipment.

"With seasonal forces at work which ordinarily cause a tapering of steel output as the year-end approaches, the gain in prospective demand is interpreted as a promise of improvement in January, rather than in the immediate future. The proposed railroad car building program could hardly affect steel mill operations before next year and to a large extent the same thing can be said of prospective betterment of automotive requirements. Nevertheless, a change of sentiment in the steel trade has revived the hope that ingot output is bumping bottom and that further declines will be small at the most. Whether significant of an impending change in trend or not, the production of the Steel Corporation has advanced slightly, partly offsetting additional losses by other companies. Raw steel output for the country at large, at 43 per cent., compares with a rate of 44 per cent. a week ago.

"The Iron Age composite price on pig iron has declined to $16.13 a ton from $16.29 last week. Heavy melting scrap has advanced to $11.67, a gain of 11 cents a ton. The finished steel composite price remains at 2.135 cents a pound.

"New fabricated structural steel projects of the week total 45,000 tons. Large construction planned ranges from

(Continued on Page 12)

WEEKLY BUSINESS INDICATORS

REPRODUCED BY ARRANGEMENT WITH THE SURVEY OF CURRENT BUSINESS

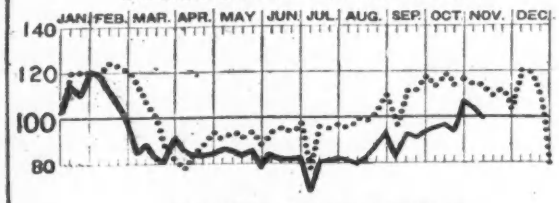
U. S. DEPARTMENT OF COMMERCE

DATA PLOTTED, WHERE AVAILABLE FOR WEEK ENDING NOVEMBER 15,1930

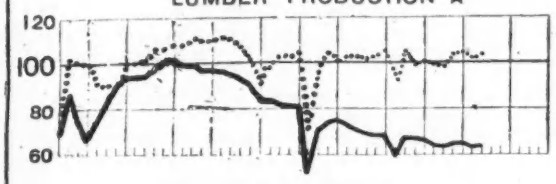
WEEKLY AVERAGE, 1923-1925, INCLUSIVE = 100

~LEGEND~
..... 1929
——— 1930

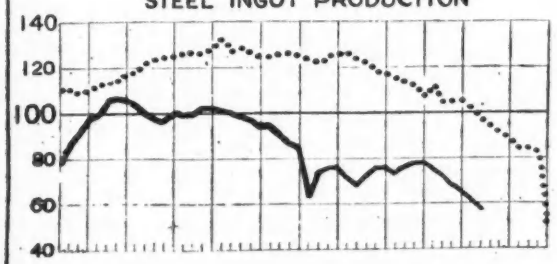
BITUMINOUS COAL, PRODUCTION



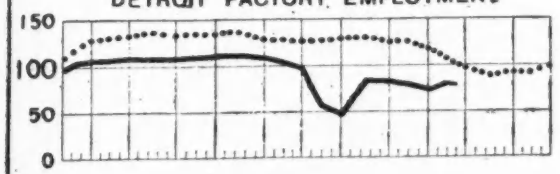
LUMBER PRODUCTION ★



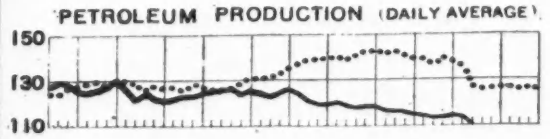
STEEL INGOT PRODUCTION



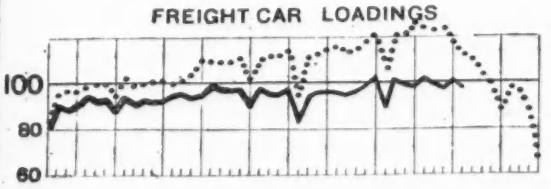
DETROIT FACTORY EMPLOYMENT



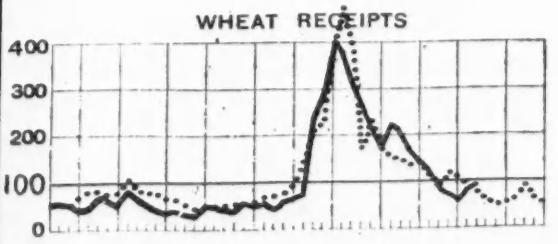
PETROLEUM PRODUCTION (DAILY AVERAGE)



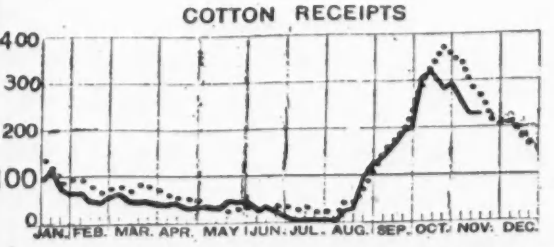
FREIGHT CAR LOADINGS



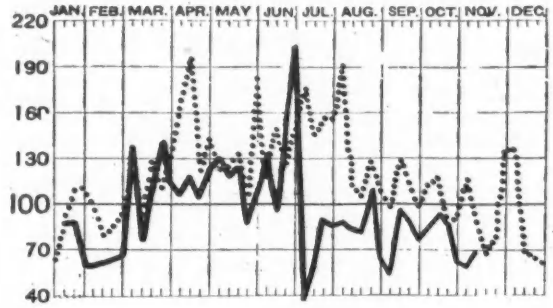
WHEAT RECEIPTS



COTTON RECEIPTS



BUILDING CONTRACTS (DAILY AVERAGE)



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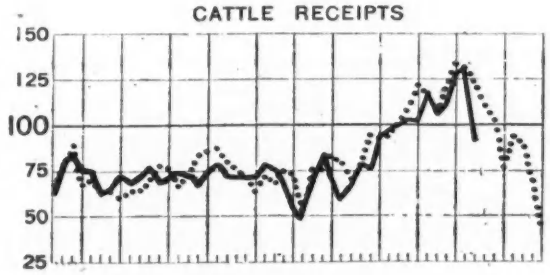
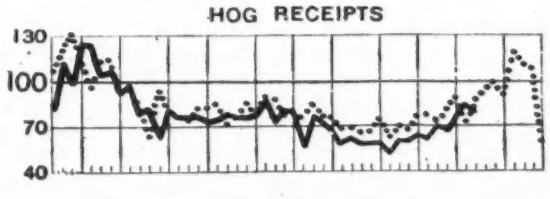
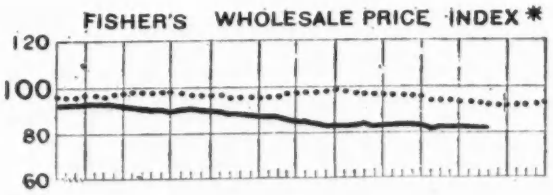


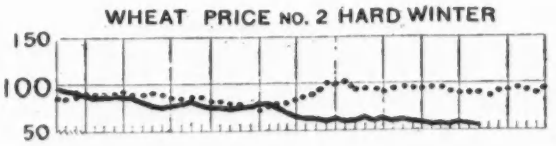
HOG RECEIPTS



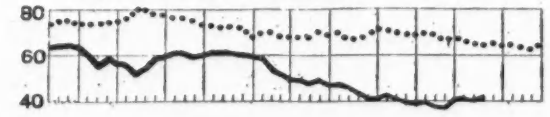
FISHER'S WHOLESALE PRICE INDEX *



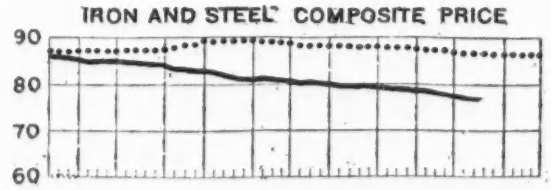
WHEAT PRICE No. 2 HARD WINTER



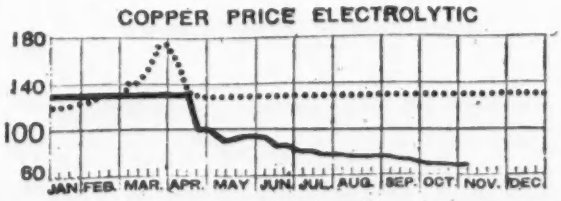
COTTON PRICE MIDDLING, NEW YORK



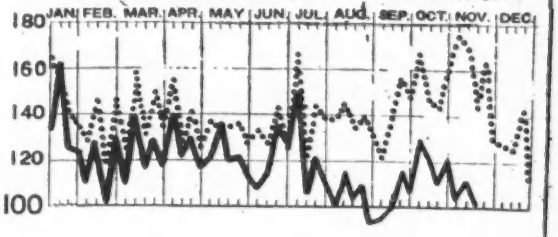
IRON AND STEEL COMPOSITE PRICE



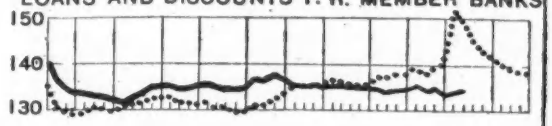
COPPER PRICE ELECTROLYTIC



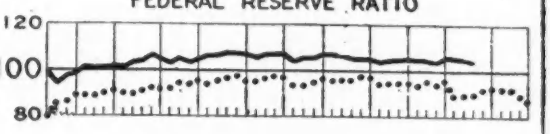
BANK DEBITS OUTSIDE NEW YORK CITY



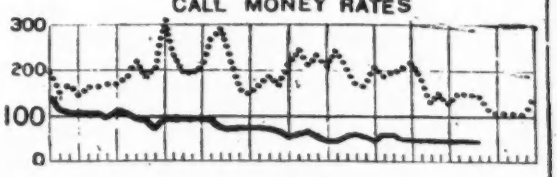
LOANS AND DISCOUNTS F. R. MEMBER BANKS



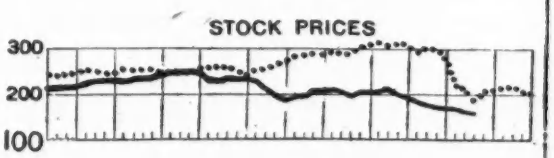
FEDERAL RESERVE RATIO



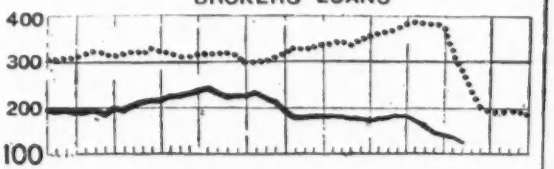
CALL MONEY RATES



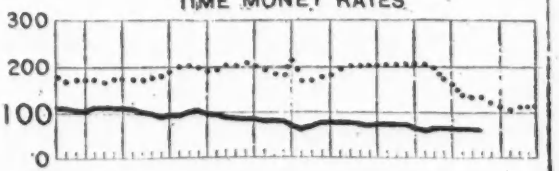
STOCK PRICES



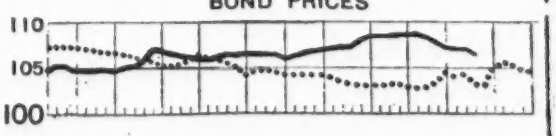
BROKERS' LOANS



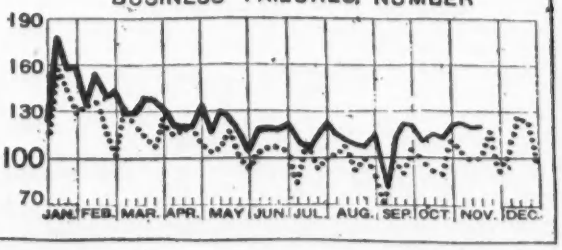
TIME MONEY RATES



BOND PRICES



BUSINESS FAILURES, NUMBER



★ RELATION TO WEEKLY AVERAGES 1927-1929 PER WEEK SHOWN.

* RELATIVE TO 1926 = 100

BARON VON FEILITZSCH JOINS LAWRENCE MOTORS

Newark, N. J., Nov. 21.—Baron J. G. Von Feilitzsch of Truen, Germany, has joined the Lawrence Motor Car Company organization in this city as a special representative. Baron Von Feilitzsch, who is a former member of the German Air Corps, will be associated with the Stinson Airplane division of the Lawrence Company, distributor of Stinson airplanes, Auburn and Cord motor cars for New Jersey.

WM. M. TEARS JOINS I. W. DANFORTH, INC.

Pittsburgh, Pa., Nov. 21.—William M. Tears, formerly sales manager for H. F. Gleason Motors, Inc., local Hupmobile distributor, has been appointed general manager of I. W. Danforth, Inc., automobile accessory distributor, here.

J. CLAYTON STREVER NAMED SALES MANAGER

Hartford, Conn., Nov. 21.—J. Clayton Strever has been appointed sales manager of the new Hupmobile retail organization, Charles B. Beach, Inc., according to Charles Bradford Beach, president of the company. Mr. Strever, who has been associated with Mr. Beach for several years past, has been elected secretary of the company.

H. W. SMITH RETURNS FROM HUDSON FACTORY

Hartford, Conn., Nov. 21.—H. W. Smith, secretary of the Harrington Hudson Company, Hudson and Essex distributor, has returned from a trip to the Hudson factory at Detroit, where he previewed the new models which are expected here the last of the month.

Seasonal Quiet Settles Over Truck Market in Indianapolis

(Continued from Page 1)

ing of the new year with fresh purchasing allotments adding to natural upturns now anticipated.

Chevrolet dealers, with new models on hand, have been exerting renewed effort in the commercial field, and although the early fall trade was said to be of satisfactory volume, nothing in current registrations indicated November will be anything but a very slow month for all makers, and perhaps will reach a lower total than October, when the figure fell to the lowest ebb of the year. The Ford and Chevrolet combination for that month accounted for 80 per cent. of the total deliveries, leaving little for the larger models.

General Motors retail business here, according to L. C. White, manager of the branch, during the first nine months of the year showed a gain of 21 per cent. over the same period of 1929. It was expected that the year would be concluded with an attractive comparison for the two periods. This company recently staged an auction sale to dispose of a surplus of used merchandise preparatory to removing the second-hand department from an open lot to a section of its new building for the winter.

International, likewise, is in good position to equal last year's trade, C. B. Hamilton, branch manager, said recently. There was not, however, much to be hoped for in the way of new truck sales during the rest of 1930, he said, but he expected to develop a just share of the business available.

PHILADELPHIA, Nov. 21.—Improvement, ranging from slight to marked, has been noted by truck dealers, distributors and factory branches in this city during the past few days, or weeks. In most cases sales are not up to last year's mark, but in a few they run about parallel for the corresponding period. There is keen interest in new or forthcoming models, and inquiries are rapidly increasing, while sales managers report encouragingly increased prospect lists.

Trucks will be shown again at the annual automobile show in January and this fact is lending some zest to activities. Competition is keen, class for class, and sales forces are working particularly hard to close deals. Credits are being watched especially close at this time.

Following are reports from organizations in the trade, tending to show conditions in the district:

Diamond T Motor Car Company: "There has been marked improvement in the past week, especially in obtaining new prospects, the heavier models being most in demand at this time. Competition is very keen and we found some price-cutting among competitors. The factory has been putting on one of the biggest campaigns for business that it has had in a long while and this should help sales."

Autocar Company: "Business with us is about on a par with that of a year ago this time, but is decidedly spotty. Main interest among purchasers just now seems to be centered about trucks of two and two and one-half tons."

G. M. C. Truck Company: "We believe that business is now generally on the upgrade. About forty-five days ago we began to notice some improvemnt. The 'buy now' movement started recently by the Chamber of Commerce, as reflected in newspaper advertising and in the attitude of the public, appears to be having a good effect. Our salesmen always mention this when making their calls."

International Harvester Company of America: "Our business has been standing up very well and we are even behind in delivery on some models, locally. The factory is considerably behind on deliveries. Altogether, we can say business is very good. The biggest demand right now is for models of one ton, a ton and a half and up to three tons in speed trucks."

Mack International Motor Truck Corporation: "Business is about the same as it was last month. The three-ton job is the most popular at this time."

Gramm Truck and Bus Company: "We have noticed a slight improvement of late and we have a number of good deals under way."

Philadelphia Motor Service Com-

(Continued on Page 12)

MULLINS for STAMPINGS
Quality—Service—Price
MULLINS MANUFACTURING CORP.
In the Cleveland and Pittsburgh District, Main Office and Works, Salem, Ohio.
BRANCH OFFICES:
332 S. Michigan Ave. Chicago, Ill.
7-252 General Motors Bldg., Detroit, Michigan

EISEMANN MAGNETO SENDS TWO ENGINEERS ARBOAD

New York, Nov. 21.—The Eisemann Magneto Corporation is sending two field engineers on long journeys, for the purpose of improving and expanding its foreign service organization.

Robert Crockard, service manager, has sailed for Cherbourg, France. After a short stay on the continent, he will proceed to Algiers, Tunis, Egypt anl thence to South Africa with stops at Kenya Colony and other points. Crockard will be in Africa from five to six months.

Ernest V. Wills, who has acted as service engineer in the Middle Western territory for the past four years, goes on a ten months' tour which will take him to Australia, New Zealand, India and the Orient. Wills has sailed from San Francisco for Honolulu and will make a complete round-the-world trip.

APPLICATION FOR MOON RECEIVER IS DENIED

St. Louis, Nov. 21.—Federal Judge Faris has denied the application of four creditors seeking the appointment of a Federal receiver for the Moon Motor Company, in a suit filed in the Federal Court of St. Louis. The action followed testimony of an attorney for the company, who asserted that the company was solvent, having assets of $1,250,000 against liabilities of $250,000. A temporary receiver is at present in charge of the business, having been appointed by Circuit Judge Hogan on November 15, following receivership action in the State Court by a minority stockholder. Hearing to determine if the company shall be adjudged bankrupt has been set for December 1.

BURCH, VETERAN DEALER FOR CHEVROLET, DEAD

Rochester, N. Y., Nov. 21.—Ray D. Burch, head of the Burch Chevrolet Company, pioneer Rochester automobile dealer and known by friends and associates affectionately as "R. D." died at his home here today of a heart attack. He was 51 years old.

Known all over the East by automobile men, Mr. Burch held the distinction of receiving the largest bonus check ever awarded a district dealer by Chevrolet. In 1923 he received a bonus of $23,000.

Mr. Burch was in the automobile business in Rochester for more than twenty years. He was one of the organizers of the Rochester Automobile Dealers Association and served a term as president in its early years. He was instrumental in organizing automobile shows in Rochester.

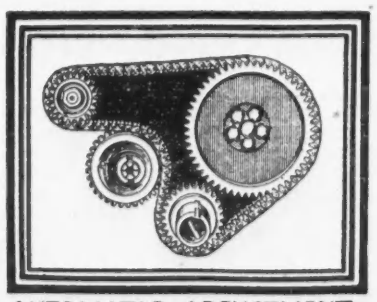
CUMULATIVE NEW PASSENGER CAR

Figures in this table are from R. L. Polk & Co. of Detroit, with the exception of Illinois, which are supplied by the Robinson Advertising desiring county, city or town lists, or lists of owners in any given Some of this data has been published previously, but it is

Returns for today, Missouri,

States	Auburn	Austin	Buick	Cadillac	Chevrolet	Chrysler	Cord	De Soto	Dodge	Durant	Essex	Ford	Franklin	Gardner	Graham	Hudson	Hupmobile	Jordan	La Salle	Lincoln
Arkansas	3	4	37	5	352	37	1	8	51	8	11	577			5	5			4	
Conn'ticut	16	9	231	53	424	97	4	86	101	13	95	799	24		39	41	30	3	28	8
Delaware	2	2	25	5	73	10		3	2	7	9	145	1			4	3		5	2
Florida	11	29	125	15	614	55	3	12	21	1	43	921	9		37	15	13		6	3
Idaho		4	21		159	16		12	15	15	9	214			8	8	1			2
Illinois	47	18	442	100	1521	189	25	125	200	24	178	2677	60	6	110	52	52	3	75	45
Maryland	8	1	147	15	565	67		14	46	15	43	768	8		19	12	14		12	4
Minnesota	2	5	170	13	1030	108	2	22	85	20	30	1186	2	4	37	20	37		7	5
Missouri	8	9	190	26	914	51		33	97	17	77	1375	10	2	37	21	27		17	3
N. Hamp.	5	2	59	4	120	23		7	8	4	13	252	2		3	8	5		3	1
N. Ca'lina	5	9	126	12	918	65	1	14	79	1	53	1357			8	15	5		8	5
N. Dakota		4	19		214	11		3	10	8	6	251			5	4				
Ohio	30	25	483	90	1423	165	4	109	182	51	198	2741	45	4	93	69	54	4	38	22
Oregon	1	3	97	7	298	28		17	21	36	46	416	6		27	13	4		4	3
Rh. Island	2	7	61	17	137	35		25	31	14	21	315	5		12	10	10		11	4
S. Ca'lina		10	65	1	597	32	1	14	30		16	691			2	10	7		3	1
S. Dakota		2	48	2	307	24		3	20	16	11	342	1		6	5	1			1
Utah	2	1	38	1	121	12		6	11	25	15	164	4		6	7	3		3	1
Virginia	6	6	110	6	696	55		33	70	14	46	1110	4		29	25	9		4	3
W. Va.	5	2	66	7	402	43	2	16	59	6	33	559	3		30	19	8		4	1
Wisconsin	11	11	233	17	880	64	1	32	68	24	80	1073	4		36	39	18		16	2
Dis. of Col.	6	3	86	16	194	23	1	18	32	1	13	621	5		20	9	14		6	7
Total	170	166	2879	412	11959	1210	45	612	1239	320	1046	18554	193	16	569	411	315	10	254	123
Ark., '29	4		112	6	1599	86		62	119	30	62	2694	4	1	25	17	23		12	5
Conn., '29	32		353	72	617	152	2	133	154	18	213	800	41	2	71	80	127	1	58	8
Del., '29	3		54	8	112	4	2	2	3	14	14	215	1		1	4	7		11	3
Fla., '29	4		127	8	601	55	4	27	50	4	65	1180	3		39	26	28		15	4
Idaho, '29	1		53		373	18		27	41	57	28	550	1		19	12	6		2	
Ill., '29	77		979	120	2424	403	46	247	385	105	521	4904	38	11	238	298	340	6	212	53
Md., '29	15		232	15	808	94	2	47	65	31	135	1121	10		60	52	106	6	22	14
Minn., '29	17		285	18	1335	124	9	53	101	96	177	2267	5	3	95	52	109		36	10
Missouri,29	20		324	23	1445	91	6	61	145	73	267	2321	17	14	88	70	92	1	44	12
N. H., '29	8		75	5	214	42		29	29	32	50	261	10		16	15	14	1	6	
N. C., '29			193	9	1283	110	1	58	121	28	116	2246	6		29	59	18		9	5
N. D., '29			48		460	28		19	31	38	24	881	2		19	9	10		2	
Ohio, '29	57		880	74	3254	297	24	299	275	168	730	5105	54	10	219	217	322	10	114	41
Oregon, '29	9		154	4	668	72		40	69	118	95	1072	9	4	42	42	40		6	1
Rh. Isl.'29	12		139	16	176	72	7	63	51	21	59	289	10		34	15	20		22	1
S. C., '29			92	4	983	51		38	37	4	48	1469	9		11	32	19			1
S. D., '29	7		72	1	603	33		17	58	49	44	816			16	11	23		1	
Utah, '29	5		44	5	266	17		20	39	26	45	391	5		30	11	20		5	2
Va., '29	3		191	7	1061	91		60	111	30	123	1710	3		44	36	76		19	7
W. Va., '29	13		122	12	633	72	1	44	75	20	112	836	1		55	25	35	1	18	7
Wis., '29	13		426	21	1348	128	2	80	143	67	286	1942	21	4	99	104	62	1	26	10
D. of C., '29	8		119	13	294	43	1	18	33	16	83	509	4		41	32	33	2	18	2
Total, '29	308	*	5074	441	20557	2083	107	1444	2135	1045	3297	33579	254	49	1291	1219	1530	29	658	186

*Not in production at that time.



Something to be Proud of . .
LINK-BELT AUTOMOTIVE S
Built and backed by Link-Belt, an engineering organization that has served and grown with the Automotive
(Reg. U. S. Trade

New Dealer Appointments By States and Makes

ARIZONA

Nash—Nogales Nash Agency Nogales.

CALIFORNIA

Auburn—Charles G. Fagin, Alhambra; Spickard & Laughland, Sacramento.

Studebaker—L. R. Hayward, Indio; Motor Inn Garage, Willows; De Bon Auto Company, Alturas.

Nash—Centerville Nash Company, Centerville; Boggs Auto Sales, Redding.

CANADA

Nash—F. D. Sadler Company, Ltd., Perth, New Brunswick.

CONNECTICUT

Studebaker — Willimantic Motor Company, Willimantic.

FLORIDA

Auburn—Tuttle's Garage, Daytona Beach.

Studebaker—Ed Lee, Pensacola, L. B. Fort, Inc., Orlando.

GEORGIA

Marmon-Roosevelt—Denny Marmon Company (distributor) Atlanta.

ILLINOIS

Studebaker—Otterson & Shipp, West Frankfort.

Nash—Kewaneee Motor Sales Company, Kewanee; Allain Brothers, St. Anne; Villa Service Station, Lake Villa.

INDIANA

Studebaker—Roy Privett, Greensburg; Russell & Beesley Sales Company, Rochester.

Nash—Central Garage, Hobart; Shaver-Nash Company, East Chicago.

IOWA

Auburn—Auburn Sales Company, Cedar Rapids; Weldon Auto Company, Iowa Falls.

Studebaker — Wilson's Garage, Hawarden.

Nash—Stander Motor Company, Davenport.

KANSAS

Nash — Speer Motor Company, Plainville.

MASSACHUSETTS

Studebaker — Zandition Motor Company, Dorchester.

Nash—The North Brookfield Nash Company, North Brookfield.

MAINE

Studebaker—L. J. Trafton, Gardiner.

MICHIGAN

Marmon - Roosevelt — Ross Motor Sales, Royal Oak.

Studebaker—Ralph Knight, Flint.

Nash—George L. Robinson, Morenci.

MINNESOTA

Studebaker—Lake Street Sales and Service Company, Minneapolis.

MISSOURI

Studebaker—J. H. Machene, St. Charles; Gladish Motors, Higginsville; Buchfield's Music House, Warrensburg.

Nash—Houston Motor Company, Kansas City.

MISSISSIPPI

Studebaker—G. H. Perkins, Canton.

NEW YORK

Marmon - Roosevelt — Stivers Garage, Inc., Baldwin, Long Island; Brown's Garage, Greenport, Long Island.

Auburn—Patchogue Auburn Company, Patchogue, Long Island.

Studebaker — F. Harold Kinnie, Croton; Yorktown Garage, Yorktown Heights.

Nash—Edwin C. Herman, Callicoon; L. D. McClure, Richville.

NORTH DAKOTA

Nash—Tri-State Motor Company, Fairmount.

REGISTRATION STATISTICS, OCTOBER, 1930

Service, Springfield, Ill., and New Jersey, which are furnished by the New Jersey Motor List Co., New Car Division, Trenton, N. J. Readers section, may obtain these by addressing any of these three companies given here complete for the convenience of our subscribers

Ohio, Oregon, Rhode Island

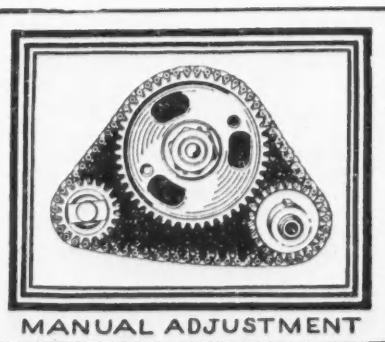
States	Marmon	Nash	Oakland	Oldsmobile	Packard	Peerless	Pierce-Arrow	Plymouth	Pontiac	Reo	Studebaker	Stutz	Viking	Whippet	Willys	Willys-Knight	Windsor	Miscellaneous	Totals
Arkansas	1	22	5	12	2		2	45	17	2	12		2	5	4	2			1,241
Conn'ticut	27	84	34	34	79	1	18	63	104	23	96	1	4	6	21	20			2,716
Delaware	1	6	4	4	14		1	11	7	1	3			1	3				354
Florida	2	25	16	13	15		1	74	51	10	16		1	14	9	2			2,182
Idaho		8	1	3				22	13	8	15			1	4	2			561
Illinois	50	272	69	117	176	5	18	217	226	29	286	6	26	37	114	36	7	8	7,648
Maryland	4	54	15	41	37	4	9	68	51	11	59		2	4	24	8	2	1	2,152
Minnesota	16	95	23	34	60	1	9	198	107	31	86	1	10	51	65	18		2	3,592
Missouri	21	82	29	54	55	1	19	143	94	15	53	2	5	29	56	10	5	2	3,589
N. Hamp.	12	35	3	18	2	1	3	28	16	17	16		1	2	14	2			689
N. Ca'lina	5	35	8	17	11		2	69	58	3	17		2	9	18	2			2,937
N. Dakota	3	15	5	10	2			26	19	1	13		1	12	21	1			664
Ohio	52	176	77	126	139	31	16	306	194	65	185	6	12	61	163	40		5	7,484
Oregon	3	21	6	18	10		2	38	41	14	33			6	7	3			1,229
Rh. Island	3	26	5	5	16	2	9	27	29	30	28			4	8	12			921
S. Ca'lina	5	9	4	9	12			43	28	3	16			4		1			1,614
S. Dakota	3	12	5	33	1			54	12	4	23		3	12	9	2			962
Utah	1	24	4	8	6		1	3	7	2	21		2	1	2	3			505
Virginia	11	26	24	20	24	1	4	61	98	12	32			9	27	4			2,579
W. Va.	19	36	13	24	11	1	4	89	48	11	34		1	18	46	9			1,629
Wisconsin	14	189	39	59	33	1	10	162	135	23	98		13	19	69	10	2	22	3,507
Dis. of Col.	7	36	16	34	31	17	5	28	36	4	30	1	1		9	7		4	1,341
Total	260	1288	405	693	736	66	133	1775	1391	319	1172	17	86	305	693	194	16	44	50,096
Ark., '29	12	38	15	21	5		2	164	117	4	20		3	91		11		6	5,370
Conn., '29	56	128	58	77	106	7	18	97	165	46	116	6	9	78		42		16	3,959
Del., '29	1	17	11	10	13	1	3	11	25		10		1	11		2		1	575
Fla., '29	5	30	11	21	27	1	2	38	62	11	15		1	36				2	2,502
Idaho, '29	9	27	9	15	2			39	37	2	22		2	35		9		1	1,397
Ill., '29	80	345	197	369	293	27	53	394	501	87	340	29	29	288		93	9	81	14,622
Md., '29	20	94	24	61	45	7	12	56	111	8	77	8	2	45		17		1	3,423
Minn., '29	14	112	51	96	59	5	14	204	194	21	133	8	3	205		41	7	6	5,965
Missouri,29	33	126	53	130	86	11	29	156	203	16	91	10	4	212		36	13	8	6,331
N. H., '29	18	46	8	34	13	3		19	43	20	28	2	2	27		16		2	1,088
N. C., '29	15	66	26	50	21		2	108	156	3	31		1	81		7			4,858
N. D., '29	13	39	15	33	6			77	60	1	26		2	72		10			1,925
Ohio, '29	116	370	164	422	264	124	31	325	499	51	312	32	29	464		175	2	12	15,542
Oregon, '29	14	55	20	57	13		4	75	83	19	73		4	51		32		1	2,946
Rh. Isl. '29	3	59	12	26	31	6	14	43	64	20	34	3	1	27		20			1,371
S. C., '29	14	18	16	27	13		1	48	73	6	15		1	28		2			3,060
S. D., '29	3	27	9	77	4			107	56	6	37		3	104		8			2,192
Utah, '29	5	34	14	12	15		2	20	29	2	16	3	4	17		6			1,110
Va., '29	19	59	27	50	37	4	6	112	127	3	55	2		99		12		3	4,187
W. Va., '29	20	61	29	58	19		4	73	79	9	46	5	3	86		19		4	2,597
Wis., '29	21	248	81	128	55	12	24	163	265	8	162	5	4	209		37	1	22	6,228
D. of C., '29	14	74	14	47	52	22	5	32	36	19	46		6	18		12		8	1,654
Total, '29	505	2073	864	1821	1159	230	226	2361	2985	362	1705	113	114	2284		607	32	175	92,902

. . . The Performance of a
E SILENT TIMING CHAIN

Industry since timing chains were first used.

LINK-BELT COMPANY INDIANAPOLIS DETROIT

4118-B

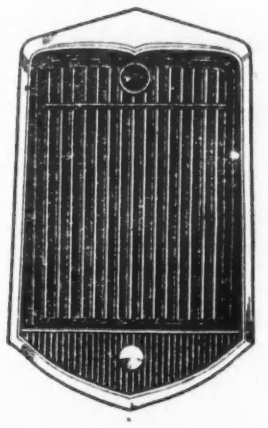


MANUAL ADJUSTMENT

. Trademark)

The Time Is Here

for the biggest year you've ever had on



AUTOMATIC
PINES
WINTERFRONTS

New vertical models with instantaneous closing device

COLD weather is here—and thousands of Pines dealers have already started on the biggest Winterfront year in their history. More than ever before motorists are turning to Pines Automatic Winterfronts. *You, too, can get this winter business—now!*

The new Pines models are the same *vertical* type as now used on the most expensive cars. They're in style with style, and the big demand is proving their popularity. New improvements include a new Pines feature, the *instantaneous closing device.* And prices have been reduced on this Winterfront, which meets every requirement.

Pines advertising is backing you up with strong sales messages which reach *your trade.* Display Pines Automatic Winterfronts, be sure that your stock is up, and you, too, can make this year *your* biggest Pines year.

If you do not handle Pines Winterfronts, get in touch with your nearest distributor now. Or write us for his name.

Remember: If your customers have a hot water heater on their car, a Pines Winterfront will more than double its efficiency.

New Prices

$15 $20

for small cars for large cars

PINES WINTERFRONT COMPANY

1151 N. Cicero Avenue, Chicago

Production -- Engineering -- Factory -

Brake Testing Machines, Their Growing Use and Place in Service

By H. L. FAUST

Sales Manager, Automotive Division, John Bean Mfg. Co., Lansing, Mich.

THE rapid development of four-wheel brake systems since their inception in this country some years ago brought about the necessity for competent service facilities in the field, as compared with the old hammer and anvil method most generally employed on two-wheel brakes. Internal expanding, self-energizing, servo acting, brake linkage, equalization and distribution of breaking pressures were terms for the engineer, but often passed up by the mechanic, usually at the expense and growing dissatisfaction of the car owner. A science was being created that was little understood or appreciated by those who were obliged or expected to service these brake mechanisms for the car owner.

With this growing necessity for sound knowledge and competent service facilities came the advent of the brake tester, which was, or was supposed to be, primarily designed to speedily assist the competent mechanic to locate the source of difficulty not always apparent and to help elevate to an exact science the servicing of brakes. This fact was either not clearly understood or completely overlooked, at least in part, as brake testers were accepted and purchased by many as the panacea of all brake troubles. "Buy a brake tester and your troubles were over." It presented, so it would seem, to many the one haven in which lack of knowledge, carelessness and incompetence could hide. Unfortunately and obviously it could not measure up to these expectations and overcome the shortcomings of the operator. For this reason, shortly after the advent of brake testers on the market, they fell in disrepute by those who attributed in many cases their own shortcomings to the tester. Another fact was that the merchandising value of the tester was overstressed without regard for the ability of the operator to use it or competently perform the services it was expected to sell. The secret of profitable brake service does not lie so much in the ability to sell the customer as it does in the ability to serve him.

Much has been accomplished since the early days described above. The science of brake service is advancing, and hundreds of fine, profitable, and in some instances exclusive, brake service stations throughout the country stand as evidence of this fact. Schools have been formed to train mechanics in the art of brake service. Brake lining manufacturers now offer valuable assistance in brake lining specifications, brake manuals and personal service. Trade publications are active in the dissemination of knowledge on the subject. Manufacturers of brake systems offer similar information for the asking. The only requisite necessary for the mechanic is the willingness to learn and an honest and earnest endeavor to do so. It is an opportunity for them if they would but take advantage of it. The field for competent brake mechanics is not overcrowded. They are, as a matter of fact, in good demand, and the pay is above the average.

There can be no misunderstanding as to the mechanical function of a brake tester. Its prime purpose is to test brakes accurately, which should mean:

(1) To determine the actual amount of tractional resistance or road pull created by the brake mechanism through the tire to the road surface. This then determines the stopping distance required to bring the car to a full stop traveling at a given rate of speed.

(2) To show the distribution of this pressure between fronts to rears, and right to left wheels and if all drums are concentric.

(3) To show, if possible, faulty brake linkage not apparent without actual examination.

(4) To indicate the action of each brake from the moment of application throughout the full braking period and its timed relation to the other brakes.

(5) To permit of the development of the highest braking efficiency possible on each car and to know when this is obtained.

The use of a brake tester therefore eliminates the necessity of road testing and the actual mechanical check-up of each brake in order to determine the performance of the braking system of the car as a whole and permits of the exact distribution of available pressures to the highest limits possible on each vehicle. This represents a tremendous saving in time and offers to the competent mechanic a means by which he can work to a high standard of service. While there may be some question or personal preference, if you please, between one brake tester or another there can be no question as to the value of a brake tester of this character when placed at the services of competent hands.

The only possible reason for the existence of any unit of equipment of this character is its value in rendering a service to the customer. Will it save time and permit of lower costs of operation? Will it permit of better work at no increase in costs? Will it elevate the standard of service this company gives to its customers and aid the mechanics in their work? They are questions that determine the value of this equipment and the answer to all of them in this case is "yes."

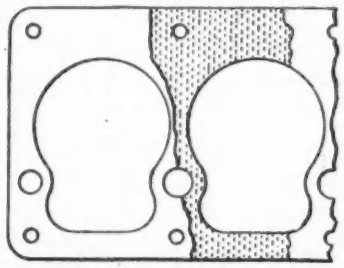
This accounts for the growing use of brake testers and their definite place in motor car service. While it seems trite to repeat that "Successful business is built upon sound service to the customer," it is because it is more generally just polite conversation than it is a reality. The customer in this case, however, is becoming more discerning and is more interested in obtaining value received than in high pressure selling, glittering promises and circus effects. In this respect he is no different than if he were buying a loaf of bread.

Brake testers offer a means to the kind of brake service every customer is entitled to. They stimulate interest in brakes and their proper performance, and are a medium by which periodic brake inspection can be induced. In competent hands they are a profitable investment, build business and elevate the standard of brake service.

NEW TYPE GASKET DEVELOPED

A NEW departure in gasket design and manufacture is announced by the Detroit Gasket and Manufacturing Company, Detroit, Mich.

The new product is known as the Steelbestos gasket, which, as the name implies, is composed of asbestos reinforced with steel. High heat and pressure resistance and the ability to adapt itself to surface variation under compression are some of the outstanding claims for this new gasket. Steelbestos gaskets are now being delivered in various forms to over twenty automobile manufacturers, who are using them in their cars.



SECTION of steel sheet insert

The backbone of the Steelbestos gasket is a steel sheet, which is stamped by a process which produces protruding tongues and Cup-

SECTION of steel sheet

shaped depressions on both sides. Tongues and cups are closely spaced and staggered. Two sheets of asbestos, one on each side of the steel sheet, which have been rendered impervious to gasoline, oil and water, are forced down over the tongues and into the depressions under great pressure. During the compressing operation the tongues are partially clenched over, so as to

VIEW of gasket assembly showing construction

anchor firmly the asbestos to the steel sheet.

The final shape of the gasket is cut out after the component parts have been assembled, as above described, into a permanent unit. This design and method of manufacture materially simplifies the making of dies for producing gaskets, it is claimed.

The Relation of Anti-Knock Fuel to the Future of the Internal Combustion Engine

By EARL BARTHOLOMEW

Director of Engineering Laboratory, Ethyl Gasoline Corp., Detroit, Mich.

This is the concluding installment of a paper which has appeared serially in The Automotive Daily News.

It has repeatedly been shown that fuel represents only a small percentage of the cost of operating an aeroplane, but is the most important factor in determining pay load, consequently its cost is not important. Aircraft engines which operate at high temperature introduce fuel problems which have appeared to date only in a minor degree in automobile engines. Cylinder temperatures must be carefully watched to prevent piston seizure and engine wreckage. Many fuels which have fairly good anti-knock value in automobile engines become quite inferior when used in air-cooled aircraft engines. Among the most common of such fuels are those of high aromatic content such as benzol blends. Cylinder temperatures may rise 100 to 200 degrees higher on benzol blends than on an Ethyl gasoline of equivalent anti-knock value as measured by equipment designed for testing the anti-knock properties of fuels under motor car operating conditions.

cost in any way. The cost per horse power is reduced and the cost per unit of acceleration is even further reduced. It is predicted that manufacturing economies of this nature will be exploited to the limit in the not distant future. High compression aircraft engines have the lowest cost per horse power, but even if it were greater, the operating economy would justify the extra cost.

Lower specific fuel consumption is characteristic of all high compression engines, and is of extreme importance in aircraft engines. Similar economies are effected in the case of automobiles, but the present cost of fuel minimizes their importance, except in the case of trucks and buses. If the cost of petroleum products should materially increase, fuel economy in automobiles would assume greater importance.

The Oil Refiners' Problem

The greatest problem confronting the oil refiner is the manufacture of gasoline of sufficiently high anti-knock value to meet the demands of automotive engines of constantly increasing compression pressure. Anti-knock value may be obtained by cracking processes, hydrogenation and the use of ethyl fluid. Naturally, the extent to which each

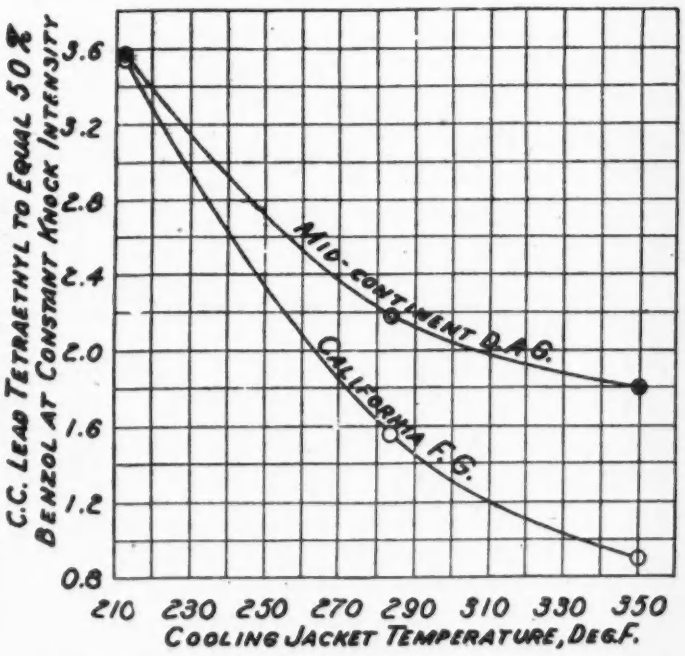


FIG. 9—The influence of engine temperature on the knock ratings of aviation gasolines

Fig. 9 shows the variation in relative knock rating with temperature of a benzol blend and an ethyl gasoline. It will be noted that the quantity of lead tetraethyl required in the Ethyl gasoline to equal the anti-knock value of the benzol blend changes 400 per cent. for the range of temperature shown, the ratings having been made on the Ethyl Gasoline Corporation series 30 knock testing engine.

With concentrations of Ethyl fluid greater than those used in commercialethyl motor gasoine, break mean excessive pressure in excess of 175 lb. have been obtained and 200 lb. does not seem to to be an impossible figure. A comparison of these figures with the 100 lb. average of present automobile engines indicates the possibilities of increasing the efficiency of these engines.

The utilization of superior fuels in high compression aircraft engines requires the use of materials in certain part which have definite properties not essential for the same parts in engines of low compression operated on common fuels. Fortunately the improvements effected by such materialts have proved to be advantageous in all aircraft engines.

Increasing the compression ratio of an automobile engine from 5.0 to 1 to 7.0 to 1 does not increase its

method is employed should be determined by the economics of the problem. Certain cracking processes yield gasoline of high anti-knock value for use in automobile engines, but cause losses up to 40 per cent. of the weight of cracking stock in the form of incondensable gases. The present knowledge relative to the economies of commercial hydrogenation is too meager to permit an evaluation of its importance in the production of anti-knock fuels.

It is known, however, that the effectiveness of ethyl fluid is generally quite high when added to fuels which have an inherently high anti-knock value. It is obvious, therefore, that an economic balance will be found where the cost of cracking and hydrogenation processes plus ethyl fluid will result in the lowest cost per anti-knock unit per unit volume of fuel.

The stabilization of the volatility and chemical composition of motor fuels is an important problem for the refiner, as well as the automobile engineer and the motoring public. It is possible to produce motor fuels of high inherent anti-knock value by various cracking processes, but within a short time such products may have largely lost their anti-knock value and, in many

(Continued on Page 9)

New Coachwork Fashions to Be Disclosed at Salon

INTERESTING developments in custom coachwork and types are authoritatively promised for introduction at the twenty-sixth annual Automobile Salon opening at the Commodore in New York on November 30. There will also be a number of new developments disclosed in chassis engineering and it will serve to mark the debut of a number of new models of fine cars introducing new 8's, 12's and 16's.

In the field of the custom coachmaker there are now two pronounced tendencies. One may be termed a continuance of present styles, with rolled belts, window reveals, belt moldings, raised panels and conventional proportions, used in different and more artistic groupings, sizes, and relation to one another; i. e., further refinement.

The other tendency, or what might be called the work of a new school, drops completely accepted standards, and has designed new proportions, shapes and sweeps, and has curtailed, and often eliminated, exterior decoration in the form of belts, moldings, reveals, etc. The severity of the resultant plainness is always softened, generally by accenting some feature, from lines to hardware. This new school is most partial to the all-metal exterior, and depends largely on the high luster of richly crowned surfaces for effect.

A preview in the studios of various custom coachmakers has afforded a good idea of many other interesting developments and novelties to be publicly disclosed at the forthcoming automobile salon. The bodies this year are lower than ever, and, to further emphasize the appearance of lowness, practically all of the new designs show the body sides carried down over the side of the chassis frame in a wide variety of treatmens. Although the straight rulings running back from the radiator and flowing into panels on the cowl or into the windshield will still find a great many adherents, there is a definite tendency away from this treatment which has grown almost conventional.

Equipment - - - Development

G. M. Truck Makes Survey Of Oil Trucking Costs

Pontiac, Mich., Nov. 21.—That a return to normalcy in business profits and earnings, shared in by the general public, can be hastened if every manufacturer of business equipment goes to greater lengths than ever to help his customers obtain maximum profit from that equipment, is the belief of Paul W. Seiler, president of the General Motors Truck Company.

"We believe in 'practicing what we preach,'" Mr. Seiler continued, "and since distribution is the key to earnings and profits in many lines of business, we have been making a nation-wide, impartial field survey of distribution and delivery in each of the major truck-using vocations.

"We have just issued a printed illustrated report covering this truck study in the field of distribution of motor oil, gasoline and fuel oil. It deals with the problems of managing a profitable distributorship. It reports methods used by successful distributors to increase profits through sound management and coordination of the delivery department and the sales department so that both function with maximum efficiency. It points out how major economies in truck operation are being effected.

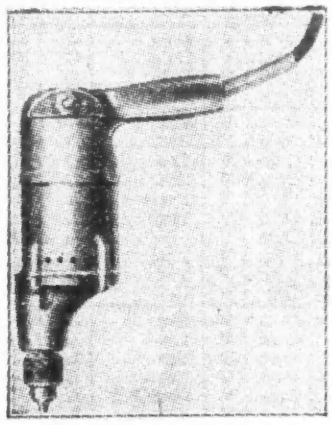
"Similarly, printed reports have been issued covering this study in the fields of food wholesaling, coal retailing, parcel delivery, retail food delivery and wholesale baking. Other industries will be reported on in succeeding months.

"This information gained in these field studies is equally valuable to us as truck makers. It is a sound method of making sure that our own products in design, performance and application meet the varying requirements of each vocation. The facts help equip our field organization to render valuable counsel and service to truck owners."

METROPOLITAN S. A. E. COMING ACTIVITIES

The Metropolitan Section, Society of Automotive Engineers, has completed plans for the balance of the year. Saturday afternoon, December 6, the section members will visit the Chrysler Building. A talk on "Aircraft Radio" will feature the meeting to be held December 10. Demonstrations will be given by representatives of the Radio Corporation of America and Western Electric Company. A Wright engine exhibit will also be a feature of this meeting. The automobile show meeting will be held January 5.

CHICAGO PNEUMATIC ANNOUNCES NEW ELECTRIC DRILLS



CHICAGO electric drill No. 19

Chicago Pneumatic Tool Company, New York city, announces the introduction of two new electric drills, models 18 and 19. Model sheet metal up to 3-16 inches diameter. The drill weighs 5 pounds, is 11⅜ inches over all and has a spindle offset of ⅞ inch. This machine is available in two free speeds, one of 4,300 r. p. m. and the other 2,800. The corresponding loaded speeds are 2,520 and 1,650 r. p. m. respectively.

The model 19 has the same capacity and is designed for the same purposes as the model 18. It operates at the same speeds also. It weighs 4¾ pounds and is 9¾ inches in length.

Both drills use universal motors and are available for either 115 or 230 volts.

The Relation of Anti-Knock Fuel to the Future of the Internal Combustion Engine

(Continued from Page 8)

cases, their high volatility. As a part of the general chemical rearrangement during the aging of such fuels dissolved or precipitated gums may be formed. Unstable fuels of this type deposit gum in all parts of the fuel system and on intake valves, resulting in many cases in complete stoppage of engine operation. Needless to say, the computation of the economies of providing anti-knock value should be made on the basis of the anti-knock value of the fuel as sold to the customer and not on the basis of the examination of freshly made products at the refinery.

The volatility of motor fuels is a subject which is receiving widespread consideration, and its relation to anti-knock value in the super-compression engine needs much study.

As a greater number of types of high-compression engines is studied, the behavior of different types of fuels in such engines becomes better understood. It is known at present that the measurement of the anti-knock value of fuels in the laboratory on standardized equipment under a single set of standardized conditions is not always sufficient to assure the proper operation of the wide variety of engines in which the fuel may be used. At present it appears possible that tests of anti-knock value at two widely different jacket temperatures may be necessary.

Within the last few years oil refiners and engine manufacturers have come to realize that engines and their fuels must be considered as one problem. The large scale cooperative research programs now being conducted by the oil and automotive industries are certain to increase our knowledge of engines and fuels and to make possible the most efficient utilization of scientific developments in both industries.

CLASSIFIED ADVERTISEMENTS IN THE AUTOMOTIVE DAILY NEWS BRING RESULTS

Cumulative New Commercial Car Registration Statistics, October, 1930

Returns for today: Ohio, Oregon and Rhode Island.

Some of this data has been published previously, but it is given here complete for the convenience of our subscribers.

Figures in this table are from R. L. Polk & Co. of Detroit, with the exception of Illinois which are supplied by the Robinson Advertising Service, Springfield, Ill., and New Jersey, which are furnished by the New Jersey Motor List Co., New Car Division, Trenton, N. J. Readers desiring county, city or town lists, or lists of owners in any given section, may obtain these by addressing any of these three companies. Commercial Car Registrations do not include buses.

States	Autocar	Brockway-Indiana	Chevrolet	Diamond-T	Dodge	Essex	Fargo	Federal	Ford	G. M. C.	International	Mack	Paige	Relay	Reo	Republic	Rugby	Sterling	Stewart	Studebaker	Whippet	White	Willys	Willys-Knight	Miscellaneous	Totals	States
Arkansas			106		13			1	145	4	22				1		1					1	4		1	299	Arkansas
Conn.	4	12	108	2	45	1		5	256	22	23	25			9			3	8	4	1	9			6	543	Conn.
Delaware	1		14		2				52	4	2						1					1			1	78	Delaware
Florida		7	145		12			5	503	4	19	5			2							5	1			708	Florida
Idaho	3		72		4				168	2	8	1	1		4					2						265	Idaho
Illinois	4	2	407	18	94		3	3	669	15	93	16	1	1	10	1		2	2		4	5	4	1	81	1436	Illinois
Minnesota		1	267	11	43	2	1	6	492	9	95	8		1	14		4			5	4	13	3	2	5	986	Minn.
Missouri		4	244	3	45	3	3	4	421	11	44	6		2	5		1			3	3	6	4		10	822	Missouri
N. Hamp.			37	1	9		1		119	3	6	3	1		6		1		4	1					1	193	N. Hamp.
N. Carolina			222		24				422	9	20				3					1		6	4		4	715	N. Caro.
N. Dakota			38		5		2		67	1	45			1	1		1			1		1	2			165	Nor. Dak.
Ohio	7	6	324	3	75	2	2	11	832	30	80	16	2	2	9	3		1	8	17	16	17	7	11	15	1493	Ohio
Oregon			91		11		2	2	193	5	11	2			4	4	2					5	3		26	361	Oregon
Rh. Island	3	1	32		14		2	2	108	6	5	7			4		1	2		1	1	3	3			195	R. Island
S. Carolina			92		7	1		2	215	6	6	8								3		1			4	345	S. Car.
S. Dakota			55	2	7				87	3	39				2					2	1		1			199	S. Dak.
Utah			41		5				110	5	3	1	1		3		1								2	172	Utah
Virginia	4	7	207		24	2	3	2	316	15	31	9		1	4	3				1	2	3	3		28	665	Virginia
W. Virginia		4	106	1	32		1	1	166	13	19				7	1			1	1	1	1	1		6	362	West Va.
Wisconsin			270	8	41		1		401	23	49	2		1	5		4		1	3	4	3	5		4	825	Wis.
Dist. of Col.	5		30	3	2				168	4	3	2			1							3			2	223	D. of Col.
Totals	31	44	2908	52	514	11	21	44	5910	194	623	111	6	9	94	12	17	8	24	45	37	83	45	14	196	11053	Totals
Ark., 1929		1	502		38		3	1	586	15	62	1			13		1		1	2	20	10		2		1258	Ark., '29
Conn., '29	9	16	208	9	80	8	10	3	239	36	34	49		1	44			1	11	1	12	24		3	20	813	Conn., '29
Del., 1929		1	32		2				46	5	7				1						1	1				96	Del., 1929
Fla., 1929		3	149		15	1		1	206	3	21	1			7						1	2				410	Fla., 1929
Idaho, '29			103		14	1	3		84	8	21				5	4	6				2	2			2	255	Idaho, '29
Ill., 1929	6	3	517	52	100		14	9	719	27	123	10			70			4	2		36	18			160	1870	Ill., 1929
Minn., '29			351	1	39	2	19	5	516	15	108	13		4	23		1				27	2			13	1139	Minn., '29
Mo., 1929		5	401	15	52	6	6	9	507	28	50	16			11	2	3	2		3	18	2		1	10	1147	Mo., 1929
N. H., 1929	1	6	62		9		1	1	94	9	12	2			9				2	1	7	1		1	2	220	N. H., 1929
N. C., '29	4	5	445	1	66	1	5		413	8	18	5			8	4	1		3		6	3			10	1006	N. C., 1929
N. Dak., '29			146	1	8		3	1	130	6	68				1		1				15			1		381	N. D., '29
Ohio, 1929	11	8	715	7	130	8	11	12	1098	69	163	15		7	56	2	1	1	13	4	66	71		10	47	2525	Ohio, '29
Ore., 1929			151		25	2	2	10	246	16	16	2			5	1	7	10		5	2	4			53	557	Ore., '29
R. I., 1929	4	2	60	3	22	2	4	5	127	22	7	10			26		2	1	6			4			3	310	R. I., '29
S. C., 1929			224		14		1	1	177	4	16	1			1	1	1				1	3				445	S. C., '29
S. D., 1929			119	1	13		1	2	109	1	63				8		1			1	8					327	S. D., '29
Utah, 1929			77		10		1		150	4	13	3			5		5			1	1	1		1	1	273	Utah, '29
Va., 1929	2	4	177		37	3	2	2	180	14	35	3		1	13	2			4	1	5	8		2	10	505	Va., 1929
W. V., '29		2	183	1	28		3	1	155	7	34				11	1	2		7		11	2				448	W. V., '29
Wis., 1929	1		425	18	64	1	9	8	630	32	102			5	18		1	7	5	2	25	12			21	1386	Wis., '29
Dist. of Col.	2	1	54	6	12				138	20	8	4			4			3	1	1	3	2			2	261	D. C., '29
Totals	40	57	5101	115	778	35	98	71	6550	349	981	135	*	18	339	17	33	29	55	22	267	172	*	21	354	15637	Totals

*Not in production at that time.

SCRAP IRON GROUP TO AID 'JUNKING'

Commends Car Makers Efforts to Rid Roads Of Aged Vehicles

New York, Nov. 21.—A committee of representative scrap iron dealers was appointed at a specail conference of the Institute of Scrap Iron and Steel, Inc., held in Cleveland recently, to consider a national plan for the scrapping of old automobiles, in co-operation with the automobile manufacturers and dealers of the country.

It was estimated at the conference that at least 2,500,000 old cars could be scrapped annually under a proper plan, removing from the highways a great number of unsafe automobiles and producing over a million tons of scrap iron and steel for the steel mills of the United States.

In a radio talk delivered by Benjamin Schwartz, director general of the institute, over the national hook-up of thirty-six stations of the Columbian Broadcasting System, recently, the following reference was made to the scrapping of old automobiles, in its national significance:

"Another problem is presented in the old automobile, or "junker' car. Figuring the life of a car as seven years, as determined by recent studies, the greater part af the entire production of automobiles in 1923, for instance, totaling 3,800,000 cars, should now be returning to the scrap heap. This, however, is not the case. A great number are remaining on the roads, becoming a menace to public safety. A good percentage is dotting the landscape as abandoned hulks, creating a poor appeal to the esthetic sense and providing actual obstacles to urban development.

"The automobile manufacturers are to be commended for the plans which they are now developing, in co-operation with the Institute of Scrap Iron and Steel, for a national program to scrap the old automobile, by which the machinery and experience which now exists in the scrap iron industry may be utilized. The annual tonnage of scrap iron and steel, which could be secured from 2,500,000 scrap cars every year, would be well over 1,000,000 tons of scrap iron and steel, or the equivalent of approximately 5,000,000 tons of iron ore or other natural resources which would be conserved."

ARMSTRONG CORK NAMES SIEDLE AS TRAFFIC CHIEF

Camden, N. J., Nov. 21.—The Armstrong Cork Company announces the appointment of E. G. Siedle as general traffic manager, with headquarters in Lancaster, Pa. The concern operates two plants in Lancaster, one each in Arrowhead, N. Y., New Brunswick. Camden and Gloucester, N. J.; Pittsburgh, Beaver Falls and Oakdale, Pa., and Florida; also factories at Seville, Algeciraw, Palamos and Palafrugell, Spain, together with many cork receiving stations throughout Spain, Portgual and northern Africa. It likewise has its own tidewater terminals at Gloucester, N. J., for handling the importations of raw cork arriving on an average of two ships a week.

AURORA A. D. A. ELECTS A. E. HOBBS PRESIDENT

Aurora, Ill., Nov. 21.—A. E. Hobbs was elected president of the Aurora Automobile Dealers' Association at the annual meeting, attended by practically every authorized dealer in the city. R. E. Underwood was elected vice-president; W. F. Kearney, treasurer, and John Traub and J. F. Kelly directors for the two-year term. R. F. Reynolds is retiring president. C. A. Vane, secretary-manager of the National Automobile Dealers' Association, addressed the membership.

OPEN JOINT TERMINAL

Bridgeport, Conn., Nov. 21.—New England Transportation Company, railroad-controlled bus line, and the Yellow Cab Association have taken a joint interest in quarters opposite the railroad station which will be used as a waiting room and terminal.

MAJOR SPECIFICATIONS AND MECHANICAL DETAILS

MAKE AND MODEL	Weight—5-P. Sedan	Wheel Base	Engine Make	Fan Belt Type	Thermostat Used	Valve Arrangement	Cylinders	Bore and Stroke	Piston Disp.	Compression Ratio	Tax H. P.	Brake, H. P. and Peak R. P. M.	Pist. Make or Material	No. Main Br.	Oil Purifier	Fuel Clean'r	Carburetor	Air Cleaner
Auburn 6-85	3255	120	Lyc	V	Dole	L	6	2⅞x4¾	185	*5.16	19.8	70@3400	*Alum	4	No	No	Sch	No
Auburn 8-95	3510	125	Lyc	V	Dole	L	8	2⅞x4¾	246	*5.15	26.4	95@3300	*Alum	5	Pur	AC	Sch	No
Auburn 8-125	3908	130	Lyc	V	Dole	L	8	3¼x4½	299	*5.25	33.8	125@3600	*Alum	5	Pur	AC	Sch	No
Austin	§1130	75	Own	F	——	L	4	2.2x3	45.8	5.1	7.8	13@3000	Alum	2	—	—	Til	—
Buick 8-50	3170	114	Own	V	Dole	O	8	2⅞x4¼	220.7	4.8	26.45	77@3200	CI	5	AC	—	Mar	AC
Buick 8-60	3795	118	Own	V	Dole	O	8	3⅛x4⅝	272.6	4.63	30.02	90@3000	GI	5	AC	—	Mar	AC
Buick 8-80	4255	124	Own	V	Dole	O	8	3⅝x5	344.8	4.5	35.12	104@2800	CI	5	AC	—	Mar	AC
Buick 8-90	4340	132	Own	V	Dole	O	8	3⅝x5	344.8	4.5	35.12	104@2800	CI	5	AC	—	Mar	AC
Cadillac V-8	——	134	Own	V	Yes	LV	8	3⅜x4⅛	353	5.35	36.45	95@3000	CI	3	—	Gas	Own	—
Cadillac V 12	5480	140-143	Own	V	Own	O	12	3⅛x4	368	5.5	46.9	135@3400	CI	4	AC	Gas	Own	—
Cadillac V-16	6100	148	Own	V	Yes	O	16	3 x4	452.0	5.50	57.5	165@3400	CI	5	AC	Gas	Own	None
Chevrolet	2500	109	Own	V	Yes	O	6	3⅛x3¾	194.0	5.01	26.3	46@2600	CI	3	—	AC	Car	AC
Chrysler 6	2695	*169¼	Own	V	Yes	L	6	3⅛x4¼	195.5	5.29	23.44	62@3200	*Alum	4	—	Yes	Car	No
Chrysler 70	3590	*168½	Own	V	Yes	L	6	3⅜x5	268.4	5.00	27.34	93@3200	*Alum	7	Pur	AC	Str.	Un
Chrysler 66	2935	*163¼	Own	V	——	L	6	3⅛x4¾	218.6	5.00	23.44	68@3000	Alum	7	Pur	AC	Str	Un
Chrysler 8	3365	*186⅛	Own	V	Yes	L	8	3 x4¼	240.3	5.40	28.8	82@3400	*Alum	5	Yes	—	Str	Yes
Chrysler Imp. 8	4725	*211	Own	V	Yes	L	8	3½x5	384.8	5.01	39.2	125@3200	*Alum	9	Yes	—	Str	Yes
Cord (Fr. Wh. D.)	4530	137½	Lyc	V	——	L	8	3¼x4½	298.6	5.25	33.8	125@3600	*Alum	5	Yes	AC	Sch	—
De Soto 6	2705	*169⅛	Own	V	Yes	L	6	3⅛x4⅛	189.81	5.20	23.44	60@3400	*Alum	4	—	Yes	Car	Un
De Soto 8	2965	*177	Own	V	Yes	L	8	2⅞x4	207.7	5.20	26.45	70@3400	*Alum	5	—	Yes	Str	Yes
Dodge Six D D	2668	*168⅝	Own	V	Yes	L	6	3⅛x4⅛	189.8	5.20	23.4	60@3400	*Alum	4	No	No	Car	—
Dodge 8	3043	*176⅞	Own	V	Yes	L	8	2⅞x4¼	220.7	5.20	26.45	75@3400	*Alum	5	Pur	No	Str	Un
Durant 610	——	*172	Con	V	Bish-Bab	L	4	3⅞x4¼	200	4.8	24	50@2800	Alum	3	AC	AC	Til	Til
Durant 612	2900	*172	Con	V	Bish-Bab	L	6	3¼x4	199	5.32	25.4	58@3100	Alum	4	AC	AC	Str	AC
Durant 614	2950	*172¼-176	Con	V	Bish-Bab	L	6	3¼x4	199	5.32	25.4	58@3100	*Alum	4	AC	AC	Str	AC
Durant 617	3290	*175¾-179½	Con	V	Bish-Bab	L	6	3⅜x4⅝	248	5.06	27.34	70@3000	*Alum	7	AC	AC	Str	AC
Elcar 75 A	2942	117	Lyc	V	Yes	L	6	2⅞x4¾	185	5.25	19.8	61@3000	*Alum	4	Pur	Gas	Sch	—
Elcar 140 and 130	†3980	135-130	Con	V	Yes	L	8	3⅜x4½	322	5.25	36.45	140@3300	*Alum	5	Pur	Gas	Sch	—
Elcar 96	3299	123	Lyc	V	Yes	L	8	2⅞x4¾	246.7	5.25	26.5	90@3000	*Alum	5	Pur	Gas	Sch	—
Essex	2805	113	Own	V	——	†L	6	2¾x4½	160.4	5.80	18.15	60@3600	Alum	3	—	Ste	Mar	AC
Ford A	2375	103½	Own	V	——	L	4	3⅞x4¼	200.5	4.22	24.03	40@2200	Alum	3	—	—	Zen	—
Franklin Trans.	3930	125–132	Own	—	Bish-Bab	*O	6	3½x4¾	274	5.30	29.4	100@3100	*Alum	7	AC	AC	Str	AC
Franklin De Luxe	4220	132	Own	—	Bish-Bab	*O	6	3½x4¾	274	5.30	29.4	100@3100	*Alum	7	AC	AC	Str	AC
Gardner 136	3330	122	Lyc	V	Dole	L	8	2⅞x4¾	246.6	5.15	26.5	70@3500	*Alum	4	Pur	Gas	Sch	—
Gardner 148	3500	125	Lyc	V	Dole	L	8	2⅞x4¾	246.6	5.15	26.5	100@3300	*Alum	5	Pur	Gas	Sch	AM
Gardner 158	3890	130	Lyc	V	Dole	L	8	3¼x4½	298.6	5.25	33.8	126@3300	*Alum	5	Pur	Gas	Sch	AM
Graham Std. 6	3160	115	Own	F	Dole	L	6	3⅛x4½	207	5.41	23.44	66@3200	*Alum	7	No	AC	DL	AC
Graham Spl. 6	3390	115	Own	F	Dole	L	6	3¼x4½	224	5.49	25.35	76@3400	*Alum	7	AC	AC	DL	AC
Graham Std. 8	3795	122	Own	V	Bish-Bab	L	8	3¼x4½	298	5.20	33.80	100@3400	*Alum	5	AC	AC	DL	AC
Graham Spl. 8	3875	122	Own	V	Bish-Bab	L	8	3¼x4½	298	5.20	33.80	100@3400	*Alum	5	AC	AC	DL	AC
Graham Cust. 8	4300	127	Own	F	Bish-Bab	L	8	3⅜x4½	322	5.41	36.45	120@3200	*Alum	5	AC	AC	John	AC
Graham Cust. 8	4405	137	Own	F	Bish-Bab	L	8	3⅜x4½	322	5.41	36.45	120@3200	*Alum	5	AC	AC	John	AC
Hudson Super 8	3200	119-126	Own	V	——	L	8	2¾x4½	213.8	5.80	24.2	80@3600	Alum	5	—	Ste	Mar	AC
Hupmobile Cen. 6	2900	114	Own	V	Yes	L	6	3¼x4¼	211.6	5.10	25.35	70@3200	Alum	4	Pur	Ste	Str	Yes
Hupmobile Cen. 8	3175	118	Own	V	Pines	L	8	2⅞x4⅝	240.2	5.20	26.45	90@3200	Alum	5	Pur	Ste	Str	Yes
Hupmobile C	3725	121	Own	V	Pines	L	8	3 x4¾	268.6	5.20	28.8	100@3200	CI	5	Pur	Ste	Str	Yes
Hupmobile H & U	**	125-137	Own	V	Pines	L	8	3½x4¾	365.6	5.20	39.2	133@3400	Alum	5	Pur	Ste	Str	AM
Jordan St. Line 80	3490	120	Con	V	Pines	L	8	2⅞x4¾	246.7	5.10	26.5	80@3000	*Alum	5	Ste	AC	Str	AC
Jordan G Ninety 8	3700	125–131	Con	V	Pines	L	8	3 x4¾	268.6	5.10	28.9	85@3200	*Alum	5	Ste	Ste	Str	AM
La Salle 345	——	134	Own	V	Yes	LV	8	3⅜x4⅛	353	5.35	36.45	95@3000	CI	3	—	Gas	Own	—
Lincoln	5030	136	Own	V	——	LV	8	3½x5	384	4.83	39.2	90@2800	Alum	5	Pur	Own	Str	Un
Marmon-Roosevelt	2833	*172	Own	V	Dole	L	8	2¾x4¼	201.9	5.25	24.2	77@3400	Alum	5	—	—	Str	AC
Marmon Eight 69	3103	*180	Own	V	——	L	8	2⅞x4¼	211.2	5.50	25.4	84@3400	Alum	5	AC	AC	Sch	AC
Marmon Eight 79	4028	*191	Own	V	Pines	L	8	3⅛x4¾	303.2	5.50	32.5	110@3400	Alum	5	AC	AC	Sch	AC
Marmon Big Eight	4363	*202	Own	V	Pines	L	8	3¼x4¾	315.2	5.50	33.8	125@3400	Alum	5	AC	AC	Sch	AC
Nash Six-60	2800	114¼	Own	V	Bish-Bab	L	6	3⅛x4⅜	201.3	5.00	23.4	60@2800	*Alum	7	AC	AC	Car	AC
Nash Eight-70	3000	116¼	Own	V	Bish-Bab	L	8	2⅞x4⅜	227.2	5.00	26.4	75@3200	*Alum	9	AC	AC	Car	AC
Nash Eight-80	3360	121	Own	V	Pines	O	8	3 x4¼	240	5.25	28.8	85@3200	*Alum	9	AC	AC	Mar	AC
Nash Eight-90	4000	124-133	Own	V	Pines	O	8	3¼x4½	298.6	5.25	33.8	115@3600	*Alum	9	AC	AC	Str	AC
Oakland V-8	3205	117	Own	V	Yes	H	8	3⅛x3⅜	251.0	5.00	37.8	85@3000	S St	3	—	AC	Mar	AC
Oldsmobile	2940	113½	Own	V	——	L	6	3⅛x4⅛	197.5	5.20	24.4	62@3000	CI	4	AC	AC	John	AC
Packard 826-833	4479	127½-134½	Own	V	——	L	8	3⅛x5	320.0	—	32.5	100@3200	*Alum	9	—	—	Own	—
Packard 840-845	4955	140½-145½	Own	V	——	L	8	3½x5	384.8	—	39.2	120@3200	*Alum	9	—	—	Own	—
Peerless St. 8	3642	118	Own	V	Bish-Bab	L	8	2⅞x4¾	246.0	5.00	26.45	85@3200	*Alum	5	Pur	AC	Sch	AC
Peerless Master 8	4521	125	Own	V	Bish-Bab	L	8	3⅜x4½	322	5.00	36.45	115@3200	*Alum	5	Pur	AC	Sch	AC
Peerless Custom 8	4766	138	Own	V	Bish-Bab	L	8	3⅜x4½	322	5.00	36.45	120@3200	*Alum	5	Pur	AC	Sch	AC
Pierce-Arrow C	4523	132	Own	V	Yes	L	8	3⅜x4¾	340	5.07	36.45	115@3000	*Alum	9	Yes	Yes	Str	Un
Pierce-Arrow B	4304	134	Own	V	Yes	L	8	3½x4¾	366	5.07	39.2	125@3000	*Alum	9	Yes	Yes	Str	Un
Pierce-Arrow B	4713	139	Own	V	Yes	L	8	3½x4¾	366	5.07	39.2	125@3000	*Alum	9	Yes	Yes	Str	Un
Pierce-Arrow A	4831	144	Own	V	Yes	L	8	3½x5	385	5.07	39.2	132@3000	*Alum	9	Yes	Yes	Str	Un
Plymouth	2595	*167	Own	V	——	L	4	3⅝x4⅜	196	4.60	21.03	48@2800	*Alum	3	—	Yes	Car	—
Pontiac	2745	110	Own	V	Var	L	6	3⅛x3⅞	200.0	4.90	26.3	60@3000	S St	3	—	AC	Mar	Yes
Reo Royale	——	135	Own	V	——	L	8	3⅜x5	358	—	—	125@3300	Alum	9	Han	AC	Sch	Own
Reo Flying Cloud	——	130	Own	V	——	L	8	3⅜x5	358	—	—	125@3300	Alum	9	Han	AC	Sch	Own
Reo Flying Cloud	——	125	Own	V	——	L	6	3⅜x5	268	—	—	85@3200	Alum	7	Han	—	Sch	Un
Ruxton Fr. Wh. Dr.	4000	130	Own	V	Yes	L	8	3 x4¾	268.6	5.09	28.8	100@3400	*Alum	5	Yes	AC	Zen	AM
Studebaker Six	2950	114	Own	V	Dole	L	6	3¼x4⅛	205.3	5.20	25.4	70@3200	CI	4	Han	Ste	Sch	—
Studebaker Dict. 8	3155	114	Own	V	Dole	L	8	3⅛x3¾	221.0	5.10	30.0	81@3200	*Alum	9	Pur	Ste	Str	AM
Studebaker Com. 8	3520	124	Own	V	Dole	L	8	3⅛x4¼	250.4	5.20	30.0	101@3200	*Alum	9	Han	Ste	Str	AM
Studebak'r Pres. 80	4230	130	Own	V	Dole	L	8	3½x4⅜	337	5.10	39.2	122@3200	*Alum	9	Han	Ste	Str	AM
Studebak'r Pres. 90	*4360	136	Own	V	Dole	L	8	3½x4⅜	337	5.10	39.2	122@3200	*Alum	9	Han	—	Str	AM
Stutz LA	4320	127½	Own	—	Bish-Bab	O	6	3⅜x4½	241.5	5.00	27.3	85@3150	*Alum	7	Wal	AC	Zen	Un
Stutz MA	4918	134½	Own	—	Yes	O	8	3⅜x4½	322	5.00	36.5	113@3300	*Alum	9	Wal	Gas	Zen	AM
Stutz MB	4863	145	Own	—	Yes	O	8	3⅜x4½	322	5.00	36.5	113@3300	*Alum	9	Wal	Gas	Zen	AM
Viking Eight	3620	125	Own	V	Yes	H	8	3⅜x3⅝	259.5	5.10	36.5	81@3200	CI	3	Own	AC	John	AC
Windsor 6-69	3195	120	Con	V	Dole	L	6	2⅞x4¾	185	5.00	19.8	47.5@2600	*Alum	4	AC	—	Str	—
Windsor 6-75	2930	120	Con	V	Dole	L	6	3⅜x4	215	4.94	27.3	66@3200	*Alum	7	AC	—	Str	—
Windsor 6-75	2930	120	Con	V	Dole	L	6	3⅜x4	215	4.94	27.3	66@3200	*Alum	7	AC	—	Str	—
Windsor 8-85	3600	120	Con	V	Dole	L	8	3 x4¾	269	5.00	28.8	85@3100	*Alum	5	AC	Gas	Str	AC
Windsor 8-92	3600	125	Con	V	Dole	L	8	3 x4¾	269	5.00	28.8	85@3100	*Alum	5	AC	Gas	Str	AC
Whippet 96 A	2673	103¼	Own	V	No	L	4	3⅛x4¾	145.7	5.40	15.6	40@3200	CI	3	No	No	Til	No
Willys-Six 98-B	2623	110	Own	V	Var	L	6	3¼x3⅞	193	5.56	25.3	65@3400	CI	4	No	Til	Til	Til
Willys 8-80	3076	120	Own	V	Var	L	8	3⅛x4	245.4	5.40	31.25	80@3200	CI	5	No	Til	Til	Til
Willys-Knt. 66-B	3868	120	Own	V	Var	K	6	3⅜x4¾	255	5.50	27.3	87@3200	*Alum	7	Ski	Til	Til	Til
Willys-Knight 87	3001	112½-115	Own	V	Var	K	6	2⅛x4⅜	177.9	5.88	20.7	55@3000	*Alum	7	Ski	Til	Til	Til

KEY TO ABBREVIATIONS

Weight—*Studebaker 7-pass. sedan. †On Elcar 140 4,375 pounds. §Austin Standard 2-passenger coupe. **Hupmobile model H weighs 3955 and model U 4225.

Wheel Base—*Over all length of chassis instead of wheel base, which manufacturers refuse to give.

Engine Make—Con, Continental; Lyc, Lycoming.

Fan Belt Type—V, V-type; F, flat.

Thermostat—Bish-Bab, Bishop & Babcock; Dole, Dole Valve Co., Chicago, Ill.; Pines, Pines Winterfront; Var, various makes.

Valve Arrangement—L, L head; H, horizontal; O, overhead; K, sleeve valve; LV, V-type L head.
*Air cooled. †Thermo syphon water cir-

Compression Ratio—*Optional on the Auburn.

Piston Material—*Alum, aluminum with invar struts; Alum, aluminum alloy; CI, cast iron; S St, semi-steel.

Oil Purifier—Pur, Purolator; Wal, Wall; Han, Handy; AC, AC Spark Plug Company; Ste, Stewart-Warner; Ski, Skinner.

Fuel Cleaner—AC, AC Spark Plug Co.; Gas, Gascolator; Ste, Stewart-Warner; Til, Tillotson.

Carburetor—Sch, Wheeler Schebler; Zen, Zenith; Mar, Marvel; Car, Carter; Str, Stromberg; DL, Detroit Lubricator; John, Johnson; Til, Tillotson.

Air Cleaner—AC, AC Spark Plug Company; AM, Air Maze; Un, United; Til, Tillotson.

Front End Drive—Link, Link Belt; Tex, Texolite; Cel, Celeron; Ram, Ramsey; Whit, Whitney Chain; Diam, Diamond Chain; Morse, Morse Chain Company; Var, various makes of chains; Var-G, various makes of gears.

Ignition, Generator and Starter—Aut-L, Auto-Lite; Del-R, Delco-Remy; N. E., North East; Dyn, Dyneto. *Nash—Indicates tv in ignition.
*Bendix starter used.

Clutch—Borg, Borg & Beck; Br-L, Brown-Lipe; Rock, Rockford Machine; Long, Long Clutch Company.

Gearset—War G., Warner Gear Company; Detr, Detroit Gear; Mun, Muncie Gear; WC, Warner Corporation.
*Three or four speed gear sets as shown are available for either model.

Universals—Un P, Detroit Universal Products Company; Spic, Spicer Manufacturing Corporation; MM, Mechanics Universal Joint Company, Rockford, Ill.; Cle, Cleveland.

Rear Axle—Col, Columbia; Sal, Salisbury; Cla, Clark Equipment Company; Tim, Timken.

Ratio—Optional on the Auburn.

Steering Gear—Gem, Gemmer; Ross, Ross

OF PRESENT AMERICAN PASSENGER CAR MODELS

Make and Model	Front End Drive	Ignition System	Gen. and Starter	Clutch	Gear Set and Speeds	Universals	Rear Axle	Ratio	Brak's	Steering Gear	Springs Rear	Spring Shackles	Chassis Lubric.	Tires
Auburn 6-85	Link	Del-R	*Del-R	Long	War-G 3	Un P	Col ½	*4.9	H	Ross	S 56¾	Own	Bijur	18x5.50
Auburn 8-95	Link	Del-R	*Del-R	Long	War-G 3	Un P	Col ½	*4.7	H	Ross	S 56¾	Own	Bijur	18x6.00
Auburn 8-125	Link	Del-R	*Del-R	Long	Detr 3	Un P	Col. ½	*4.45	H	Ross	S 56¾	Own	Bijur	18x6.50
Austin	Gear	Aut-L	*Aut-L	Rock	War-G 3	Spic	Sal	5.25	M	Say-B	Cant	Own	Al-Z	18x3.75
Buick 8-50	Tex	Del-R	Del-R	Own	Own 3	Own	Own ½	4.54	M	Sag	S 54½	Tryon	Al-Z	18x5.25
Buick 8-60	Tex	Del-R	Del-R	Own	Own 3	Own	Own ¾	4.45	M	Sag	S 55¼	Own	Al-Z	19x5.50
Buick 8-80	Tex	Del-R	Del-R	Own	Own 3	Own	Own ¾	4.27	M	Sag	S 58⅞	Own	Al-Z	19x6.50
Buick 8-90	Tex	Del-R	Del-R	Own	Own 3	Own	Own ¾	4.27	M	Sag	S 58⅞	Own	Al-Z	19x6.50
Cadillac V-8	Morse	Del-R	Del-R	Own	Own 3	Spic	Own ¾	4.75	Own-M	Sag	S 58	Own	Alem	19x6.50
Cadillac V 12	Morse	Del-R	Del-R	Own	Own 3	Spic	Own ¾	——	Own-M	Own	S 58	Own	Alem	19x7.00
Cadillac V-16	Morse	Del-R	Del-R	Own	Own 3	Spic	Own ¾	4.39	Own	Own	S 60	Own	Alem	19x7.00
Chevrolet	Var	Del-R	*Del-R	Own	Own 3	Own	Own ½	3.82	M	Own	S 54	Tryon	Alem	19x4.75
Chrysler 6	Morse	Del-R	Del-R	Own	Own 3	Un P	Own ½	4.60	H	War	S 53¾	Tryon	Al-Z	19x5.00
Chrysler 70	Morse	Del-R	Del-R	Own	Own 4	Un P	Own ½	3.82	H	War	S 57¾	Rub B	Al-Z	18x5.50
Chrysler 66	Morse	Del-R	Del-R	Own	Own 3	Un P	Own ½	4.70	H	War	S 54⅝	Rub B	Al-Z	18x5.50
Chrysler 8	Morse	Del-R	Del-R	—	Own 4	—	Own ½	4.10	H	War	S 54⅝	——	Al-Z	18x5.50
Chrysler Imperial 8	Morse	Del-R	Del-R	—	Own 4	—	Own ½	3.81	H	Ross	S 57½	——	Al-Z	18x7.00
Cord (Fr. Wh. Dr.)	Link	Del-R	*Del-R	Long	Detr 3	UnP&MM	Col F	4.41	H	Gem	S 62	Own	Bijur	18x7.00
De Soto 6	Var	Del-R	Del-R	Borg	Own 3	Un P	Own ½	4.6	H	Own	S 53¾	——	Al-Z	19x5.00
De Soto 8	Var	Del-R	Del-R	Borg	Own 3	Un P	Own ½	4.6	H	Own	S 54⅝	Rub B	Al-Z	19x5.25
Dodge 6 D D	Morse	Del-R	Del-R	Borg	Own 3	Un P	Own ½	4.9	H	War	S 53¾	Tryon	Al-Z	19x5.00
Dodge 8	Morse	Del-R	Del-R	Borg	Own 3	Un P	Own ½	4.6	H	War	S 54⅝	Rub B	Al-Z	18x5.50
Durant 610	Morse	Aut-L	*Aut-L	Borg	Own 3	Spic	Own ½	3.9	S D	Own	S 55	Tryon	Alem	19x4.75
Durant 612	Morse	Aut-L	*Aut-L	Borg	Own 3	Spic	Own ½	4.4	S D	Own	S 55	Tryon	Alem	19x4.75
Durant 614	Morse	Aut-L	*Aut-L	Borg	Own 3	Spic	Own ½	4.4	S D	Own	S 55	Tryon	Alem	29x5.00
Durant 617	Morse	Aut-L	*Aut-L	Borg	Own 4	Spic	Own ½	3.72	S D	Own	S 55	Tryon	Alem	29x5.50
Elcar 75 A	Link	Del-R	*Del-R	Long	War-G 3	Spic	Sal ½	4.88	H	Ross	S 53½	Belf	Alem	29x5.25
Elcar 140 and 130	Link	Del-R	*Del-R	Long	War-G 4	Spic	Sal ½	3.46	H	Ross	S 57	Belf	Alem	18x7.00
Elcar 96	Link	Del-R	*Del-R	Long	War-G 4	Spic	Sal ½	3.92	H	Ross	S 56	Belf	Alem	19x6.00
Essex	Morse	Aut-L	*Aut-L	Own	Own 3	Spic	Own ½	5.41	Bendix	Gem	S 54⅝	Own	Alem	19x5.00
Ford A	Cel	Own	*Own	Own	Own 3	Own	Own ¾	3.7	M	Gem	S Tr	Own	Al-Z	19x4.75
Franklin Trans.	Whit	Del-R	*Del-R	Br-L	War-G 4	Spic	Own ½	4.54	H	Gem	El 42	None	Al-Z	19x6.50
Franklin De Luxe	Whit	Del-R	*Del-R	Br-L	War-G 4	Spic	Own ½	4.73	H	Gem	El 42	None	Al-Z	19x6.50
Gardner 136	Link	Del-R	*Del-R	Borg	War-G 4	Spic	Col ½	4.45	H	Ross	S 54	O-N	Alem	29x5.50
Gardner 148	Link	Del-R	*Del-R	Borg	Own 4	Spic	Col ½	4.45	H	Ross	S 54	O-N	Alem	29x5.50
Gardner 158	Link	Del-R	*Del-R	Borg	War-G 3	Spic	Col ½	4.45	H	Ross	S 57	O-N	Alem	30x6.50
Graham Std. 6	Link	Del-R	*Del-R	Long	War-G 3	Un P	Sal ½	4.7	H	Ross	S 54	Tryon	Al-Z	19x5.25
Graham Spl. 6	Link	Del-R	*Del-R	Long	War-G 4	Un P	Sal ½	3.91	H	Ross	S 54	Tryon	Al-Z	18x5.50
Graham Std. 8	Link	Del-R	Del-R	Long	W C 3	Un P	Sal ½	4.45	H	Ross	S 56	Rub B	Al-Z	18x6.00
Graham Spl. 8	Link	Del-R	Del-R	Long	War-G 4	Un P	Sal ½	3.90	H	Ross	S 56	Rub B	Al-Z	18x6.00
Graham Cust. 8	Link	Del-R	Del-R	Long	War-G 4	Un P	Cla ½	3.92	H	Ross	S 58	Own	Bijur	19x6.50
Graham Cust. 8	Link	Del-R	Del-R	Long	War-G 4	Un P	Cla ½	3.92	H	Ross	S 58	Own	Bijur	19x6.50
Hudson Super 8	Morse	Aut-L	*Aut-L	Own	Own 3	Spic	Own ½	4.7	Bendix	Gem	S 54⅝	Own	Alem	18x5.50
Hupmobile Cen 6	Morse	Aut-L	*Aut-L	Borg	Detr 3	MM	Sal ½	4.70	S D	Ross	S 53	Tryon	Al-Z	19x5.50
Hupmobile Cen 8	Morse	Aut-L	*Aut-L	Borg	Detr 3	Un P	Sal	4.55	S D	Ross	S 52¾	Rub B	Al-Z	19x5.50
Hupmobile C	Morse	Aut-L	*Aut-L	Long	Detr 3	Un P	Own ½	4.55	S D	Ross	S 54	Own	Alem	31x6.00
Hupmobile H and U	Morse	Aut-L	*Aut-L	Long	Detr 3	Un P	Own ½	4.07	S D	Ross	S 57	Own	Alem	19x6.50
Jordan St. Line 80	Morse	Aut-L	*Aut-L	Long	War-G 3	Cle	Col ½	4.9	H	Gem	S 55¾	O-N	Alem	28x5.50
Jordan G. Ninety 8	Morse	Aut-L	*Aut-L	Long	War-G 3	Cle	Col ½	4.25	H	Gem	S 55¾	O-N	Alem	30x6.00
La Salle 345	Morse	Del-R	Del-R	Own	Own 3	Spic	Own ¾	4.75	Own-M	Sag	S 58	Own	Alem	19x6.50
Lincoln	Morse	Del-R	Del-R	Own	Own 3	Spic	Tim F	4.58	Bendix	Own	S 60	Own	Alem	20x7.00
Marmon-Roosevelt	Diam	Del-R	*Del-R	Rock	War-G 3	Spic	Sal ½	4.9	Bendix	Ross	S 54⅛	Tryon	Al-Z	19x5.50
Marmon Eight-69	Diam	Del-R	*Del-R	Rock	War-G 3	Spic	Sal ½	4.9	Bendix	Ross	S 56⅛	Rub B	Al-Z	19x5.50
Marmon Eight-79	Diam	Del-R	*Del-R	Rock	Detr 3	Spic	Sal ½	4.7	Bendix	Ross	S 60	Rub B	Al-Z	19x6.00
Marmon Big 8	Diam	Del-R	*Del-R	Rock	War-G 4	Spic	Sal ½	4.45	Bendix	Ross	S 60	Rub B	Al-Z	19x6.50
Nash Six-60	Cel	Aut-L	*Aut-L	Borg	Own 3	Own	Own ½	5.1	S D	Ross	S 50⅞	Tryon	Alem	19x5.00
Nash Eight-70	Diam	Aut-L	*Aut-L	Borg	Own 3	Own	Own ½	5.1	S D	Ross	S 50⅞	Tryon	Bijur A	19x5.25
Nash Eight-80	Diam	Aut-L	*Aut-L	Borg	Own 3	Own	Own ½	4.7	S D	Gem	S 55	Tryon	Bijur A	18x5.50
Nash Eight-90	Diam	Aut-L	*Aut-L	Borg	Own 3	Own	Own ½	4.5	Bendix	Gem	S 56¾	Own	Bijur A	19x6.50
Oakland V-8	Morse	Del-R	Del-R	Own	Own 3	MM	Own	4.42	M	Sag	S 54½	Tryon	Al-Z	23x5.50
Oldsmobile	Var	Del-R	Del-R	Borg	Mun 3	Un P	Own ½	4.54	Own	Sag	S 54½	Tryon	Alem	28x5.25
Packard 826-833	Morse	Dyn	*Dyn	—	Own 4	—	Own ½	——	M	Own	S 60½	——	Bijur	19x6.50
Packard 840-845	Morse	Dyn	*Dyn	—	Own 4	—	Own ½	——	M	Own	S 60½	——	Bijur	19x7.00
Peerless St. 8	Link	Aut-L	*Aut-L	Rock	War-G 3	Spic	Sal ½	4.7	Bendix	Ross	S 56⅛	Rub B	Alem	29x5.50
Peerless Master 8	Link	Aut-L	*Aut-L	Rock	War-G 4	Spic	Sal ½	4.45	Bendix	Ross	S 60	Rub B	Alem	31x6.00
Peerless Custom 8	Link	Aut-L	*Aut-L	Rock	War-G 4	Spic	Sal ½	4.45	Bendix	Ross	S 60	Rub B	Alem	31x6.50
Pierce-Arrow C	Morse	Del-R	Del-R	Long	Own 4	Spic	Own ½	4.58	Bendix	Gem	S 60	Faf	Al-Z	19x6.50
Pierce-Arrow B	Morse	Del-R	Del-R	Long	Own 4	Spic	Own ½	4.08	Bendix	Gem	S 60	Faf	Al-Z	18x7.00
Pierce-Arrow B	Morse	Del-R	Del-R	Long	Own 4	Spic	Own ½	4.42	Bendix	Gem	S 60	Faf	Al-Z	18x7.00
Pierce-Arrow A	Morse	Del-R	Del-R	Long	Own 4	Spic	Own ½	4.42	Bendix	Gem	S 60	Faf	Al-Z	18x7.00
P'mouth	Cel	Del-R	Del-R	Rock	Own 3	Own	Own ½	4.37	H	War	S 53⅝	Tryon	Al-Z	19x4.75
Pontiac	Morse	Del-R	Del-R	Own	Own 3	MM	Own	4.42	M	Sag	S 54	Tryon	Al-Z	29x5.00
Reo Royale	Morse	Del-R	Del-R	Long	Own 3	Un P	Own	4.07	H	Ross	S 57¼	Own	Far	6.50x18
Reo Flying Cloud	Morse	Del-R	Del-R	Long	Own 3	Un P	Own	4.07	H	Ross	S 57¼	Own	Al-Z	6.50x18
Reo Flying Cloud	Morse	Del-R	Del-R	Long	Own 3	Un P	Own	4.42	H	Ross	S 55	Own	Al-Z	6.50x17
Ruxton (Fr. Wh. Dr.)	Link	Aut-L	*Aut-L	Long	Own 3	Own	Own	4.25	H	Gem	S 55	Own	Alem	31x6.00
Studebaker Six	Whit	Del-R	*Del-R	Long	Own 3	Spic	Own ½	4.73	Bendix	Ross	S 54	Tryon	Alem	19x5.25
Studebaker Dict. 8	Var G	Del-R	*Del-R	Long	War-G 3	Spic	Own ½	5.11	Bendix	Ross	S 54	Tryon	Al-Z	19x5.25
Studebaker Com. 8	Var G	Del-R	*Del-R	Long	Own 3	Spic	Own ½	4.73	Bendix	Ross	S 56	Faf	Al-Z	19x6.00
Studebaker Pres. 80	Var G	Del-R	Del-R	Long	Own 3	Spic	Own ½	4.31	Bendix	Ross	S 60	Faf	Al-Z	19x6.50
Studebaker Pres. 90	V r G	Del-R	Del-R	Long	Own 3	Spic	Own ½	4.31	Bendix	Ross	S 60	Faf	Al-Z	19x6.50
Stutz LA	Link	Del-R	Del-R	Borg	Detr 4	Un P	Sal ½	4.75	H	Gem	S 60	Own	Bijur	31x6.00
Stutz MA	Link	Del-R	Del-R	Long	Detr 4	MM	Tim ½	4.75	H	Gem	S 62¼	Own	Bijur	32x6.50
Stutz MB	Link	Del-R	Del-R	Long	Detr 4	MM	Tim ½	4.5	H	Gem	S 62¼	Own	Bijur	32x7.00
Viking Eight	Whit	Del-R	Del-R	Borg	Mun 3	MM	Own ¾	4.63	Bendix	Sag	S 58	Tryon	Alem	30x6.00
Windsor 6-69	Morse	Aut-L	*Aut-L	Borg	War-G 3	MM	Col ½	4.9	H	Ross	S 54	O-N	Alem	29x5.25
Windsor 6-75	Link	Del-R	*Del-R	Borg	War-G 3	MM	Col ½	4.9	H	Ross	S 54	O-N	Alem	29x5.50
Windsor 6-75	Link	Del-R	*Del-R	Borg	War-G 4	MM	Col ½	3.9	H	Ross	S 54	O-N	Alem	29x5.50
Windsor 8-85	Link	Del-R	*Del-R	Borg	War-G 3	MM	Col ½	4.63	H	Ross	S 54	O-N	Alem	31x6.00
Windsor 8-92	Link	Del-R	*Del-R	Borg	War-G 4	MM	Col ½	3.9	H	Ross	S 54	O-N	Alem	31x6.50
Whippet 96 A	Var	Aut-L	Aut-L	Borg	Own 3	MM	Own ½	4.55	Bendix	Own	S 40½	Tryon	Alem	19x4.75
Willys-Six 98 B	Var	Aut-L	Aut-L	Borg	Own 3	MM	Own ½	4.60	Bendix	Own	S 49¾	Tryon	Alem	19x5.00
Willys 8-80	Link	Aut-L	Aut-L	Borg	Own 3	MM	Own ½	4.60	Bendix	Ross	S 56	Tryon	Alem	19x5.50
Willys-Knight 66 B	Link	N E	N E	Rock	Own 3	MM	Own ½	4.60	Bendix	Ross	S 57½	Own	Bijur	19x6.00
Willys-Knight 87	Link	Aut-L	Aut-L	Rock	Own 3	MM	Own ½	4.89	Bendix	Own	S 53	Tryon	Alem	19x5.50

Gear and Tool Company; Sag, Saginaw; Say-B, Saylor-Beall Manufacturing Company, Detroit, Mich.; War, Warner.

Brakes—H, hydraulic; M, mechanical; SD, steeldraulic; Bendix, Bendix Brake Corporation.

Rear Springs—S, semi-elliptic; El, full elliptic; Cant, semi-cantilever; S-Tr, semi-transverse.

Spring Shackles—Tryon, Willys-Morrow Company; Rub B, Rubber Shock Insulator Company; Faf, Fafnir Bearing Company; O-N, O-N Spring Shackle Company; Belf, Belflex Corporation.

Chassis Lubricator—Alem, Alemite; Al-Z, Alemite Zerk; Alem A, Alemite automatic; Bijur, Bijur Lubricating Corp.; Bijur A, Bijur automatic centralized; Cen, Central magazine; Far, Farval.

In the Bus Field

TO EXTEND BUS ROUTE

Akron, O., Nov. 21.—Application has been filed with the state Utilities Commission by King Brothers of Lebanon for permission to extend their motor bus route from Xenia to this city, a distance of 180 miles. The proposed extension would run through London, Union county, Delaware, Mount Gilead, Mansfield, Ashland, Wayne county and Barberton. The company now operates from Cincinnati to Dayton.

BUYS BUS LINE

Trenton, N. J., Nov. 21.—The Utility Commission has approved the sale of bus lines by Joseph Aiello to Gabriel Frielino and granted Frielino permission to operate them ed Frielino permission to operate them between Little Ferry Station, Ridgefield Park and Washington Park, Moonachie.

INTRASTATE TRANSPORTATION

Ravenna, O., Nov. 21.—Chamber of Commerce here has adopted a resolution indorsing the application of the Great Eastern Stages and Greyhound Lines for its permission to operate an intrastate motor transportation business between Cleveland and Wheeling, W. Va., by way of this city.

NOTICE

Please see the fifth column to the left of this advertisement giving steering gear information. Notice the outstanding Ross predominance. The actual figures are:

ROSS 44

NEAREST Competitor 18

SECOND Competitor 10

THIRD Competitor 7

Build Their Own 15

ROSS CAM AND LEVER steering gears predominate not only in passenger car field, but in truck and bus fields as well.

ROSS GEAR & TOOL CO.
Lafayette, Indiana

ROSS
Cam & Lever
Steering

There is only one CAM & LEVER *Steering Gear*

Eight Tests for Profit For Next Nine Months

(Continued from Page 3)

possible. The possibility of profit depends upon two things—the amount of money you have invested and the profit possibilities of your business. (d) Determine now that you are going to change failure into success and loss into profit in every department of your business. Take your courage in hand and never make the same experiment twice; let each experiment serve to make the next one different and better. Find out from your bookkeeping facts what your resultant in profit must be—then determine to get it!

3. Your bookkeeping system shows actual conditions in terms of income and expenditures, expenses and profits, capital invested and reasonable profits that should accrue therefrom. The territory in which you operate, the goods you sell in that territory, the market for those goods, the buying power that exists to make that market operative, all indicate the possibilities of your business. The actualities revealed by your bookeeping system must measure up to the potentials of your territory, or rather the potentials of your territory, must justify the actual conditions of your business as it is revealed by bookkeeping facts. Therefore, before your experiment in business can be a complete success, the potentials of your territory must be realized to the highest possible degree, and, of ccurse, in the degree that you realize on these potentials will the success of your experiment in business be proportionately measured.

4. Therefore, as business men it is our responsibility to know just what the potential possibilities of our territory are, else we can have no reasonable justification for investing any given sum of money in our business. Certainly we are not going to spend money in business without being pretty sure that there are possibilities of making that investment a profitable investment. We certainly are not justified in guessing that we can get results from a territory, because with a reasonable amount of common sense and effort we can find out pretty accurately what the possibilities of any territory really are. When with brains and effort we can find out, guessing is a too costly experiment. To begin with, we must find out if there is sufficient potential of business in our territory to justify us in expecting profit, and if so, HOW MUCH?

But we do not believe that we will find much cause to worry about the potential of business in our territories. Some business men, however, admit that there are possibilities, but other business men consider the amount of business that competition is getting as sure evidence of possibilities. In the degree that we are able to compete with competitors, will we be able to ge our share of business? In the degree that we are abler than our competitors, will we be able to increase that share and cash in to still greater extent on the possibilities of the territory? And, of course, the reverse is true.

The chances are that neither our competitors nor ourselves have developed 100 per cent. of the existent possibilities of the territory in which we operate. Therefore, in the degree that we devise new and effective means to create a greater demand for the service we are rendering or the goods that we are selling, in that same degree will we realize additionally on our existent possibilities. There is always a reward in greater results for potentials from "other industries" that can be secured by intelligence, resourcefulness and energy—a car owner may turn his car over to a general repair station for a "complete overhauling" without ever knowing that it might be even more advisable for him to have his car serviced regularly by an electrical repair station than to suffer poor performance until he is forced to have it completely overhauled. But if we had contacted him personally, lured him into a service station with a sign or attractive promise, or invited him in with mailed or published advertising, we might have saved him the expense of a complete overhauling and secured for ourselves a regular and profitable customer. It might be argued that it costs too much to get new business through canvassing, advertising or by mail. But this cannot be a reasonable objective until we really know the average value of a new customer.

5. Therefore, there is no question about the possibilities of our territory—unless we want to say that we are already getting 100 per cent. of all the business that we can get in ratio to competition, and that we have already developed 100 per cent. of all the potential customers there are. Therefore, regardless of conditions, whatever they may be, there is always an opportunity to get better results. But the only way to get better results is to improve on the men and methods that were used in getting our past results. In other words, make the mistakes of the past valuable experimental tests to improve the future!

6. To realize to the fullest extent the potentials for increased business through the sale of our service and goods requires that we analyze exactly what those potentials are and where they exist in our territory. Our larger towns, obviously, have the greater possibility and the keener competition. By concentrating and insuring that we reach our possibilities in these towns we can very probably affect over 50 per cent. of our total territory possibilities. When we finally get down and analyze definitely in terms of dollars and cents how much business we can really get out of a certain city, town or district, then we can pick, train and supervise only the kind of men most likely to get those possibilities. Not only that, but we let men know in advance what results we expect them to get in dollars and cents. We are able also to advise them what methods are best to use to obtain those results.

Here we have two advantages: First, knowing exactly what we want done, we pick the right men to do the job, and we know better how to help him to do it. Second, when we are able to give a salesman a definite result to obtain, "a mark to shoot at," that man can certainly get better results than if he did not know definitely what results he can and must get. Having arrived at a carefully estimated potential for a given territory, we are in an excellent condition to prove that the results we expect really exist and that they are reasonably obtainable.

7. You now have a definite, sound basis for the supervision and control of the man-element in your test for profits. Let us end the day when we can leave the results of salesmen to unaided efforts and unknown possibilities. Let us also end the day when we can neglect the accomplishment of necessary functions in improving manpower and in using carefully thought-out methods to get business without guessing.

8. With a clear knowledge of the profit requirements of our business based upon the carefully studied bookkeeping facts of investment, operating costs, we can set up a definite resultant that we must obtain to stay in business and to realize a sufficient return on our time, ability, effort and financal investment. To obtain this very definite resultant we will soon realize that we must be very particular in picking, supervising and developing men and keenly intelligent in developing the right methods under which their results can be best insured!

SOME IMPROVEMENT IN BUSINESS SEEN

(Continued from Page 1)

York at its 162d annual dinner at the Hotel Astor.

Mr. Edgerton, who was the chief speaker of the evening, made this statement on business conditions as the result of the replies he had received to a questionnaire sent by telegram to the presidents of state manufacturing associations in eighteen of the principal industrial states, asking them to wire him their opinions of business, industrial and employment conditions in their states as they are today. The eighteen states are California, Colorado, Illinois, Indiana, Kentucky, Massachusetts, Michigan, Missouri, New York, Ohio, Oklahoma, Rhode Island, Utah, Washington, New Jersey, Pennsylvania, Connecticut and Georgia.

DISTRIBUTORS HAIL MOVE TO SYNCHRONIZE CAR ANNOUNCEMENTS

(Continued from Page 1)

be brought out by all makers at the same time, either on the basis of once or twice a year," stated Tom J. Hay, president of Thomas J. Hay, Inc., distributors of Willys-Overland products.

"As to the dates on which announcements should be made. One of them should certainly be at automobile show time. Adopting the uniform date policy would do much to eliminate the turmoil now existing in and out of the trade as to when the various manufacturers will make their new car announcements."

"We need the stabilizing influence of unified dates in making new car announcements," states M. J. Lanahan, president of the Dashiell Motor Company, Dodge Brothers distributors. "I am heartily in favor of show time as the period for making such announcements. This policy used to be followed and it was a great benefit to both the show and the industry in general. Automobile merchants and the buying public would heartily welcome uniform new model announcement dates."

"In my opinion the proper procedure would be to leave it up to individual manufacturers as to when they should announce new models," said H. A. Wehmeier, vice-president and general manager of Community Motors, Inc., Oakland-Pontiac distributors." It has been handled that way this year and I can't see where it has been harmful. As for the automobile shows, they will attract big crowds anyway. People will go to them as in the past to see all the cars together under one roof."

BANK FAILURES MAR MIDWEST SALES OUTLOOK

(Continued from Page 1)

deposits held by the closed Louisville banks.

One bank at Franklin, Ky., has closed. Bancokentucky holds controlling interest also in two banks at Cincinnati and two in Covington, Ky., plus one in Ashland, Ky., and another at Paducah, Ky. It was announced at Paducah, today, that the First National at that point had merged in with the Mechanics Trust and Savings Bank and City National Bank, the latter taking over the assets and guaranteeing deposits of the two former. The First National was the Bancokentucky institution in Paducah.

In Louisville a good many business concerns are handicapped in handling their business, account of frozen assets, and must make fresh banking connections, which is not as easily done as said.

Bancokentucky on June 2 announced a merger deal with the Caldwell interests, which was denied after failure of Caldwell, the local concern contending that the deal was never consummated. However, national accounts and various large accounts drew heavily all of last week, withdrawals becoming so heavy that the National Bank Examiner stepped in; held sessions from 4 o'clock Saturday until midnight Sunday with directors and officers of other banks, from which nothing constructive developed.

MURRAY BODY HAS 30% OPERATIONS INCREASE

Detroit, Nov. 21.—November operations of the Murray Body Corporation shows an increase of 30 per cent. over October and 50 per cent. over Setpember. The corporation has 6,700 men on its pay rolls, compared with 5,500 in September.

Expansion of Motor Freight Lines In California Aids Truck Sales

(Continued from Page 6)

pany, Stewart trucks: "Business with us has shown marked improvement lately, and we are now doing a fairly good business, especially in the smaller jobs of one ton, a ton and a half and two tons, but the most popular seller for the moment is the one-ton job. We have a number of good deals on for later in the month as well."

SAN FRANCISCO, Cal., Nov. 21 (UTPS).—Trucks continue to rise in sales, and with the rapidly multiplying number of truck lines throughout California operating along the highways and attracting shippers by offering store-door pick-up and store-door delivery, the truck business seems destined to break all previous records in the coming year. Even with the current depression, November truck sales have been better than even dealers expected.

A. W. McKenzie, recently appointed Western representative for the Federal Motor Truck Company and making his headquarters at the factory branch establishment in San Francisco, reports splendid sales of the Federal throughout his territory.

Max L. Rosenfeld, president and general manager of the Brockway-Pacific Company, distributor of Brockway trucks in the entire northern California district, finds sales climbing at a very gratifying angle.

Pacific Freight Lines, a consolidation of more than a score of automobile truck lines operating in various parts of California, is destined to boost truck sales through extending its lines in coordination with an intensive advertising campaign now being prepared to "sell" shippers on the advantages of this unified, low-rate, dependable truck service. The main point that the new advertising campaign will stress is that the truck line gives sidewalk service at both ends.

The Dodge Brothers' plan of inviting the public into their assembly plants to watch the creation of Dodge trucks is proving a very successful sales idea. E. A. Test, Inc., Dodge Brothers' representative for the entire central California district, with headquarters at El Dorado and Park Streets, Stockton, Cal., held such a public showing for four days, November 12 to 15, inclusive, when the plant was "open house" for all comers to watch the assembling of the new light and heavy duty Dodge Brothers' trucks.

Unable to supply the demand at the present time, the factory is considerably behind its orders, according to Manager Gaebelein.

New Orleans Truck Sales Up 10% In October and Gains Continue

NEW ORLEANS, Nov. 21.—Replacement of wornout equipment caused an increase in truck sales of more than 10 per cent. in the New Orleans area during October, and observations by foremost dealers indicate that this increase will be continued through the cold months.

While business firms have not yet recovered sufficiently to begin the purchase of more expensive types of trucks on a large scale, a very difinite pick-up in sales of several of the better known makes and a substantial boost in the lower priced one is indicated in a summary of sales for the month just ended.

Low prices for sugar have tended to halt buying of needed equipment by large plantation operators in the "sugar bowl" section served by New Orleans dealers. Prices of 4 and 5 cents a pound being received in some instances is said to be below production cost at or about this, with no profit for the growers.

Consequently, fleet operators have on hand many trucks two, three and some four years old, which have reached the limit of their service and must be replaced, it was pointed out by Olin Linn, president of New Orleans Motor Comapny, one of the largest Ford dealers.

This demand for low-priced trucks is being gradually extended to the higher priced ones. Contractors, pavers and others are now purchasing lower-priced vehicles with assurances to dealers in higher priced ones that this is temporary and that purchases of bigger trucks will be made within the very near future, it was pointed out by George W. Hunter, truck manager for Fairchild Motor Company, Dodge distributor.

Truck Sales in Salem, O., Improve In Contrast to the Usual Trend

SALEM, O., Nov. 21.—Commercial car sales the past thirty days showed a slight gain over the previous month, a survey of the Salem area, which embraces a dozen or more smaller farming communities, discloses. This is in contrast to the usual seasonable decline at this period.

An encouraging bit of information came from the Salem Motor Car Company, Ford distributor, where three truck sales in the past month were reported. This has been the greatest volume of truck business reported in a like period in many months, officials of the firm said. Two of these trucks went to a coal firm for quick deliveries.

Ellsworth Chevrolet Company, one of the most active Chevrolet firms in this section, reports truck business satisfactory for this season of the year. The new ton and a half model, representatives of this firm said, has had excellent responce through this territory.

Truck service has been holding up well with the coming of colder weather. Many fleet owners are now having the entire group of trucks overhauled after an active summer season, and this added service has been a contributing factor in improved service demand, dealers said. This is particularly true of brake and motor jobs, of which there has been a big increase in the past thirty days.

RICHFIELD OIL CANCELS ITS CALIFORNIA ORDERS

New York, Nov. 21.—Richfield Oil Company announces it has canceled its contracts for the purchase of oil from producing companies in California. This, with other economies, it was announced will result in a reduction of $12,000,000 in operating costs of the company.

Contemporary Comment

(Continued From Page 4)

7,000 tons of highway bridges in Tennessee and a 3,000-ton viaduct for the Pennsylvania Railroad in West Philadelphia, to a 7,500-ton clubhouse in San Francisco for the Olympic Club and a 4,000-ton warehouse in Honolulu for the Hawaiian Pineapple Company.

"Awards of fabricated steel totaling 28,000 tons include 15,000 tons of oil tanks for the Great Lakes Pipe Line Company. Transmission towers for the Union Electric Light and Power Company at Bagnell, Mo., require 4,160 tons."—**The Iron Age market summary of this week.**